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Business Process Analysis & Information System Model for Coachman Clothiers

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BUSINESS PROCESS ANALYSIS & INFORMATION SYSTEM MODEL

FOR

COACHMAN CLOTHIERS

by

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College Scholars Project

The University of Tennessee, Knoxville

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Forward

In the Fall of 1997, I left Knoxville, TN to go to Brown University. My stay there was only one semester before I decided to leave and come back closer to home to be with my family when my father underwent major heart surgery. I began taking classes at the University of Tennessee in the Summer of 1998. Soon after, I became frustrated with the rigidity of the curriculum and found myself dreaming of returning to Rhode Island and the freedom of Brown University, but out of nowhere, I was told of a program at UT that would give me the freedom to study and take classes without a set curriculum. This program is the College Scholars.

The College Scholars Program is the reason I am still at the University of Tennessee. Entering the program, I set up a curriculum that would propel me into graduate study in either I/O psychology or business administration, while still experiencing and learning the liberal arts. My classes have consisted of psychology, accounting, economics, philosophy, anthropology, geology, art history, French, English, and management. All of these courses have come together to give me the well-rounded college experience for which I was searching, while maintaining the focus of my program.

In coming to the climax of the College Scholars Program, I had wrestled with numerous ideas for my senior project. I originally started doing research on emotional intelligence in relation to depression among college students. However, I decided to change my focus to incorporate more business concepts in Spring 2001. I wanted a project that I could send to potential graduate schools

or job opportunities to show that I have an understanding of business processes, even though the majority of my undergraduate studies were in the liberal arts.

I received approval to do an accounting information system project for a small, local retailer, Coachman Clothiers. I began working with Dr. Del Devries in the Fall 2001 semester. The goal was an applied project to examine the role of conceptual ideas in a business setting to better understand the concepts and achieve a practical level of understanding of the detailed problems at the application level.

Throughout the project, I learned how to overcome the difficulties of taking research and concepts and applying them to a real business. It was learning a new and different way of thinking and writing about ideas over the conventional research papers accomplished in most courses. I feel as though I have achieved the goal stated above, and it is my hope that all the hard work put into completing this project has given me a valuable tool to take with me after I leave the University of Tennessee. Enjoy!!

-Seth-

Business Process Analysis & Information System Model for Coachman Clothiers

Introduction

Coachman Clothiers is a small haberdashery located in Knoxville, Tennessee. It is privately owned by David and Gail Dill, who have been serving the clothing needs of Knoxville men since 1986. Coachman Clothiers' business has survived and continues to grow each year by maintaining its strategic position of product and service differentiation.

Coachman Clothiers operates without the use of information technology (IT), and it is in this area that Coachman has fallen behind its competition. Coachman realizes that it must begin investing in IT to continue delivering advanced customer service and compete in the local men's clothing market. The implementation of an accounting information system is the first step Coachman should take to improve its use of information technology. The system would streamline the administrative work by automating and integrating the current manual system, and it would give Coachman's sales associates the ability to track customer information and produce reports to aid management with decisions.

This project is designed to assist Coachman in the process of automating its current manual system by analyzing its business processes and evaluating the appropriateness of QuickBooks Pro as the accounting information system. In doing so, Coachman's business processes are analyzed in terms of its strategy, to see what activities are involved in delivering its products and services. Next,

its manual accounting system is documented by flowcharts, and the benefits of accounting information systems are discussed. Finally, REA data modeling is covered, and Coachman Clothiers is modeled in terms of its resources, events, and agents, which serve as the guide in the demo of the software package, QuickBooks Pro.

Strategy: Theoretical Background

A clearly defined strategy is essential for a company to be competitive and profitable in the long-run. Many times, small companies fail to realize the importance of strategy and collapse due to the competitive advantage of other organizations that have and follow a well-defined strategy. So, what is strategy?

Strategy consists of making choices. Porter says deciding if the company will be a low cost provider, product and/or service differentiator, or some mix of both is the first choice an organization must make. This choice is essential because many decisions are dependent upon it. If a company chooses to be a low cost provider, it must look for ways to cut cost, like sacrificing customer service, so it can offer lower prices. On the other hand, a company that chooses to be a product and/or service differentiator may have higher prices and receive higher margins to cover the extra expenses involved to deliver the differentiated product or service.

Once this choice of strategy is made, the company must decide who its customers are and how it will meet their needs. It does so by positioning. *Strategic positioning is carrying out different activities from competitors or executing similar activities in different methods* (Porter 62). There are three

basic positions from which to choose: variety-based, needs-based, or access-based. A variety-based strategic position involves picking a product or service and doing it better than anyone else. Jiffy Lube incorporates this position. Jiffy Lube serves a variety of customers with a particular service, changing oil, and does it quicker and cheaper than most of its competition.

Another position is needs-based. Needs-based positioning is finding a subset of the population with unique needs and attempting to meet those needs. Nike is an example of a needs-based position. Nike offers athletic shoes and apparel to sports activists. It does not focus only on basketball or football. Instead, it focuses on the needs of many athletes, covering a wide array of sports.

The final position is access-based. An access-based strategic position is providing a product or service to a unique area. Waffle House uses access-based positioning by placing its restaurants along the interstates and freeways. However, access-based strategic positioning is not as common as needs-based or variety-based.

Companies do not have to choose to offer only one strategic position. Many times a strategy will involve a combination of the three. The essence of strategy is in the activities of the organization. A company must choose to *perform activities differently or to perform different activities than rivals. Otherwise, a strategy is nothing more than a marketing slogan that will not withstand competition* (Porter 64). In other words, the success of a company rests in its ability to perform activities that carry out its strategic position.

To perform such activities trade-offs and fit are a must. *A strategic position is not sustainable unless there are trade-offs with other positions. Trade-offs occur when activities are incompatible. Simply put, a trade-off means that more of one thing necessitates less of another* (Porter 68). Porter describes three reasons trade-offs occur. The first is keeping and staying consistent with an image or reputation to not confuse customers or lose credibility by delivering two inconsistent things at the same time. A second reason trade-offs occur is that many trade-offs indicate rigidity in machinery, people, or systems. For example, Jiffy Lube could not offer a full service garage and be a quick service lube-change garage without sacrificing its service, speed, and low price. A third reason trade-offs arise is from internal control. If a company tries to do everything, its employees could lose direction and find it difficult to make day-to-day decisions without confusion and a clear framework.

As mentioned earlier, fit among activities is also a necessity for strategy and positioning. *Strategy is about combining activities… Strategy involves a whole system of activities, not a collection of parts. Its competitive advantage comes form the way its activities fit and reinforce one another* (Porter 70). Fit is important because discrete activities often influence each other. For example, a competent sales team is more productive when the company incorporates technology and its marketing includes advanced customer service and support. *When activities complement one another, rivals will get little benefit from imitation unless they successfully match the whole system* (Porter 74).

To recap, strategy consists of several different choices. First, a company must decide to be a low-cost provider or product/service differentiator. Secondly,

it must decide on a unique position. It can take a needs-based, variety-based, access-based, or a combination of the three to define who its customers are and how it will meet their needs. Thirdly, the company must make trade-offs and have fit among complementary and reinforcing activities. Whoever the company, regardless of size, incorporating a well-defined and clear strategy is important because it allows them to focus their efforts and not try to be everything to everybody, which leads to downfall and collapse.

Strategy: Applied to Coachman Clothiers

In applying strategy to Coachman Clothiers, the question of 'who is Coachman Clothiers?' will be examined. To answer the question, its strategy and position must be recognized. Next, Coachman's activities, tradeoffs, and fit among the activities are analyzed, and finally, the activities of Coachman's competition are considered.

Strategic Positioning

From the theoretical section on strategy, there are several choices a company must make to define its strategy. The first choice is the decision to be either a low cost provider or differentiate a product and/or service. Coachman has decided to do the second. It differentiates itself with quality clothing that is hard to find in the Knoxville area and advanced customer service. Corresponding to this choice of service and product differentiation, Coachman's products are high priced items that have good margins in comparison to its competition.

Coachman Clothiers' next choice lies in positioning. There are three basic positions: variety-based, needs-based, and access-based. Many times these positions overlap, and this is the case for Coachman Clothiers. Coachman has both a needs-based and variety–based strategic position. The variety-based position is offering advanced, personal customer service, tailoring, and differentiated, quality clothing for its clientele. At the same time, Coachman uses a needs-based position by offering high quality, men's clothing for any business or leisure occasion. Therefore, a possible statement describing Coachman Clothiers strategic position is as follows: Coachman Clothiers provides quality service, tailoring, and clothing for any occasion to gentlemen of the Knoxville area.

Activities

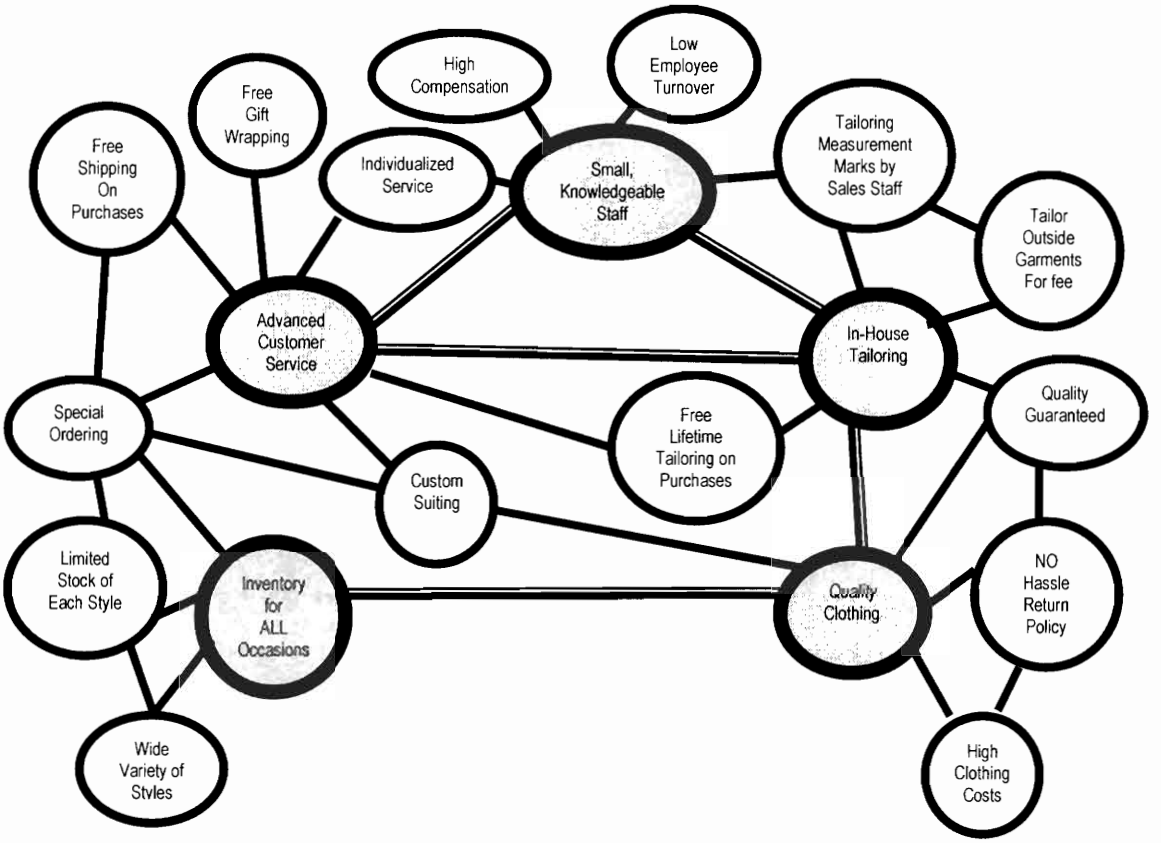
Porter says *competitive strategy is about being different. It means deliberately choosing a different set of activities to deliver a unique mix of value* (64). So, the next choice is deciding which activities differentiate and add value.

An activity map shows the strategic position of an organization through a contained set of interconnected activities. By creating an activity map, one can see the way the activities relate and reinforce one another to meet the strategic position as well as seeing which activities are the weakest and unwarranted. After analyzing the activities of Coachman Clothiers, an activity map was created to show a set of its main activities (in grey) with corresponding support activities connected to each.

Figure 1 is the activity map. Coachman's strategic position is shown in the connected activities. When viewing the map, Coachman has a set of five main

activities: (1) having a small, knowledgeable staff, (2) giving advanced customer service, (3) offering in-house tailoring, (4) offering quality, high-end merchandise, and (5) having business or leisure attire for any occasion.

Figure 1: Activity Map of Coachman Clothiers



Activity 1: Small, Knowledgeable Staff

Having a small, knowledgeable staff is an important activity for Coachman to meet its overall strategic position. There are several positive consequences that go along with this decision. By having a small staff, Coachman can pay its

employees higher wages than its competition. In turn, there is far less turnover and more employee loyalty, and the sales staff can establish definite long-term relationships with customers and vendors.

In these relationships, the employees incorporate individualized service by knowing the names, preference of brands and buying habits of many of the customers. On the vendor side, each sales associate is involved in the buying of the inventory. Therefore, there is a one-to-one relationship with representatives from many clothing suppliers. This direct connection allows the associates to ask questions concerning the clothing, make specific requests on behalf of their customers, and gain further knowledge about each line of clothing that will benefit them in selling the merchandise to their clientele.

Furthermore, competition between employees is minimal since salary is not commission based. This initiates a stress-free working environment among the sales staff. In return, the store is a much more relaxed environment where customers are made to feel at ease and not hassled. However, the choice of noncommissioned-based salaries could cause the sales staff to not perform at its highest level due to a lack of motivation. Knowing this, Coachman attempts to address the threat by giving either a cash or clothing bonus at the end of each calendar year.

The staff is also knowledgeable about the clothing Coachman offers. Knowing the fit of items to the benefits and disadvantages of the materials from which the clothing is made, is an advantage in sales and customer relationships. Further knowledge of the sales staff extends to tailoring and measurements for

custom suiting. With the sales staff doing all of the marking for the tailoring department, greater efficiency and faster turnaround on tailored garments is possible.

Activity 2: Advanced Customer Service

Advanced customer service is the second primary activity Coachman delivers to meet its strategic position. There are many ways Coachman provides its quality service to its customers. The first is individualized service.

The individualized service fits with Coachman's decision to have a small knowledgeable staff. Around sixty-five percent of the customers are known on a first name basis and every customer can get help from the sales staff on matching articles of clothing, getting assistance on the fit of a garment, or any other request a customer has. Further, the sales staff will gift-wrap any purchase for no additional charge, saving the customer time and money for special occasions and holidays. Along with free gift-wrapping, Coachman offers free shipping to anywhere in the continental U.S. and free tailoring on purchases for the life of the garment. These free services are not cheap, however, all three add value and differentiate Coachman from much of its competition.

Special ordering is included in the primary activity of advanced customer service. Coachman special orders items daily that are not in the present inventory. When a customer cannot find exactly what he or she desires, the staff will attempt to find what the customer wants. Along with this service, Coachman offers custom suits, sport coats, and slacks by Hart Schaffner & Marx, Austin

Reed, and Tallia in which the customer can pick out the exact fabric, model, and make of each garment.

Activity 3: In-house Tailoring

Coachman Clothiers has chosen to have an in-house tailoring department. This is the third main activity shown on the activity map. The tailoring department does tailoring on garments purchased from Coachman and other establishments. As stated earlier, the items purchased at Coachman are tailored for no charge to the customer for the life of the garment. However, there is a fee to tailor items not purchased at Coachman. This outside tailoring is a small but additional source of revenue comprising less than one percent of the total revenue.

Activities 4 & 5: Quality Clothing and Inventory for All Occasions

Offering quality men's clothing and having inventory for all occasions are the fourth and fifth primary activities of Coachman Clothiers. These two activities are closely related, however, they need to be separated to show the needs-based and variety-based positions. Coachman's choice of quality clothing fits in nicely and has a definite niche in the Knoxville market. Coachman has a wide price range in its sportswear. For example, shirts range from $42.00 to $285.00. But in any price range, the vendors have been selected on the quality of the merchandise, and Coachman fully guarantees its items with a no hassle return policy.

As mentioned above, Coachman offers a wide array of men's clothing for business and leisure occasions. Coachman has a large inventory for a store of

2,600 square feet. It offers a wide variety of styles. For example, Coachman offers suits, sport coats, dress slacks, ties, casual slacks and shirts, dress shirts, socks, sweaters, jackets, underwear, and more, and in each of these, there is a large selection of styles and a wide price range from which to choose. However, Coachman has a limited stock of each item and style. This is in contrast to a store such as GAP, where inventory is simple, having few styles that differ mostly in color, and can be replaced easily when sold out.

Activity Fit

In his article, Porter writes about different types of fit and the importance of each. *First-order fit is simple consistency between each activity and the overall strategy* (Porter 71). Coachman aligns all its activities with its strategy of product and service differentiation. When looking at figure 1, the activities are congruent and do not cancel themselves out. However, there are a few weaknesses. Having a small, knowledgeable staff to deliver advanced customer service by attempting to establish a close relationship with each customer is one of the strongest fits, but the sales staff is not fully equipped to deliver the best possible service without the use of information technology (IT).

Coachman needs to begin using information technology to allow its sales staff to track customer information to better serve its clientele. An information system would give the staff the proactive ability to contact its customers with special product and follow-up information by seeing reports of each customer's purchase history, buying trends and other relevant information. An accounting information system should be added to deliver these reports, which would create

better customer service and better assist Coachman in meeting its strategy of service differentiation. Nevertheless, Coachman Clothiers' activities are consistent and fit together to meet the demand of its strategic position.

Porter also describes second order fit. *Second-order fit occurs when activities are reinforcing* (Porter 71). Coachman's use of a small knowledgeable staff to deliver advanced customer service, superior tailoring and the finest quality men's clothing for any business or leisure occasion is not only consistent but also reinforcing. Each activity comes together to give the customer confidence in his buying decision and feel relaxed in the shopping environment, which leads to longer visits and an increase in the probability of purchasing clothing. Thus, Coachman has a nice fit among the activities it has chosen to deliver based on Porter's first- and second-order fit.

Tradeoffs

Recognizing and making tradeoffs is another important aspect of strategy. There are several reasons tradeoffs occur. One is consistency in image. This is important for Coachman. Coachman does not want to confuse its employees or, more importantly, its customers. For example, Coachman's decision to carry high-end, quality men's clothing for business and leisure occasions requires several tradeoffs. One tradeoff is low cost. High quality clothing comes at a high cost. Consequently, if a customer sees a certain type of garment at a low price, he/she might become confused at the quality of the merchandise.

Another tradeoff is Coachman's decision not to carry women's clothing. To successfully carryout its current strategic position, Coachman could not carry

ladies attire without making major changes in the activities of the organization. It would demand more money to bring in new clothing lines, a larger staff, involve new training of the current staff, demand another tailor, drastically increase the cost of advertising and marketing, and require additional floor space. This would be costly and confusing for the organization, the current employees, and its customers since its image and strategic position are already clearly defined.

Competition

Two competitors of Coachman Clothiers in the Knoxville men's clothing market are M.S. McClellan and Men's Wearhouse. Both of these competitors have been analyzed in terms of their strategies and activities and are compared to Coachman Clothiers.

M.S. McClellan is Coachman Clothiers closest competitor. Like Coachman, it is privately owned with only one location, and its strategic position is much the same. M.S. McClellan differentiates itself with quality clothing and customer service. It offers some of the finest clothing from the United States and Europe. M.S. McClellan focuses on the upper end of the Knoxville market, while Coachman aligns itself with both the middle and high-end sectors. Ermenegildo Zegna, Oxxford, Hickey Freeman, Zanella, and Robert Talbott are a few examples of McClellan's clothing selection. It specializes in custom suits, sport jackets, slacks, and shirts.

M.S. McClellan offers many of the same services as Coachman. These services include gift certificates, free gift wrapping, reweaving and repairs on damaged clothing, alterations for the life of the garment, free alterations on all in-

stock, regular priced merchandise, and wardrobe consulting. M.S. McClellan also offers shipping services and alterations for clothing not purchased at the store, and sale merchandise at a nominal charge.

M.S. McClellan differs from Coachman Clothiers in its use of information technology. McClellan utilizes an accounting information system (AIS), a website, and e-mail. With the use of the AIS, M.S. McClellan can track its inventory levels, accounts payable, accounts receivables, customer purchases, customer credits and approvals, employee information and records, and receive reports and graphs based on this information to help management make relevant decisions.

The use of the AIS and e-mail gives M.S. McClellan an efficient method of communicating with vendors to place orders and the ability to receive discounts for online purchasing. In return, the orders and payments could be processed faster. McClellan also uses e-mail to allow its customers to make requests and give comments. However, it does not utilize e-mail to notify customers of upcoming events and other relevant information.

M.S. McClellan's presence on the internet with its website, www.msmcclellan.com, is informative and well designed. McClellan's strategic position is clearly defined on its default home page, which allows the customer to know exactly what the store values and attempts to offer. On this page, the address, phone and fax numbers are given along with a picture of the store and Matthew S. McClellan himself. A history and overview of the store is given when clicking on his picture. The home page also serves as the directory for the rest of

the website allowing the user to click on the specific page he wants to view, such as tailored clothing, trousers, special events and news, and etc. Each of these pages is informative, giving the types of clothing McClellan offers and what differentiates each product and service it delivers. However, M.S. McClellan does not utilize its website for e-commerce, which would allow customers to make purchases online.

The Men's Wearhouse is analyzed as the other competitor of Coachman Clothiers. Men's Wearhouse is a publicly traded company with 475 locations nationwide and one location in the Knoxville area. Its strategy is different than Coachman Clothiers'. The Men's Wearhouse is a low cost provider and a service differentiator. It offers off-priced clothing at prices 20-30 percent lower than most department stores.

Men's Wearhouse offers many services. Like Coachman, it offers wardrobe consulting, professional tailoring (although not free), an experienced sales staff, and gift certificates. The Men's Wearhouse also offers tuxedo rentals, big and tall clothing, and a Men's Wearhouse credit card.

The Men's Wearhouse, like M.S. McClellan, differs from Coachman in its use of IT. Men's Wearhouse utilizes information technology for its AIS, website, and e-commerce. Men's Wearhouse uses its AIS to track inventory and find sold out items in other stores. The AIS is used to track customer information with a purchase history for styles and sizes to assist in future purchases, and it collects and produces other accounting and decision making information much like the AIS of M.S. McClellan & Co.

The Men's Wearhouse utilizes its website, www.menswearhouse.com, to deliver information to its customers and investors and offer online services and e-commerce. On the website, customers can apply for a credit card and check account information. An online account can be set up to shop online and receive e-mail updates on promotions, sales, and events. Another interesting service offered on the website is the *Wish List*. Here, a customer selects items he would like to have, and others can view the wish list and purchase items on that list for a gift.

The e-commerce section of the website allows the customer to make purchases by occasion or by category. When selecting the occasion option, the site assists the customer in buying the appropriate items for different occasions such as interviews, business wear, dress casual, weddings, semi-formal, formal, and funerals. This service is informative and adds value to the customer by allowing him to be confident in his choice of clothing for each occasion.

Overall, the Men's Wearhouse has the most informative and technical website of Coachman's competition. Its mission statement is clearly defined in the *Our Company* section of the site. Elsewhere, investors can view stock quotes and charts, SEC filings, financial information, the annual report, earnings estimates, and other shareholder information. Likewise, customers can get an abundance of information on the clothing the Men's Wearhouse offers, including the name brands, styles, sizes, and prices, and the services it delivers such as wardrobe consulting, tailoring, and seminars on how to dress for different occasions.

The activities offered by Coachman Clothiers, M.S. McClellan, and Men's Wearhouse are summarized in Table 1. When viewing the table, one can see that Coachman Clothiers is meeting and/or surpassing its competition in all service activities except the ones that incorporate information technology. There, both M.S. McClellan and Men's Wearhouse are serving the needs of their strategies and customers better and more efficiently by utilizing AIS, email, and websites.

Table 1: Coachman Clothiers vs. Competitor Activities

Activity	Coachman Clothiers	M.S. McClellan	Men's Wearhouse
Differentiated Product	Yes	Yes	No
Low Cost Provider	No	No	Yes
Differentiated Service	Yes	Yes	Yes
Professional Tailoring	Yes	Yes	Yes
Free Lifetime Tailoring on Purchases	Yes	Yes	No
Free Tailoring on Sale Items	Yes	No	No
Outside Tailoring for Nominal Charge	Yes	Yes	No
Free Shipping	Yes	No	No
Free Gift Wrapping	Yes	Yes	No
Custom Suiting	Yes	Yes	No
Custom Shirts	No	Yes	No
Wardrobe Consulting	Yes	Yes	Yes
Computerized AIS	**No**	Yes	Yes
Website	**No**	Yes	Yes
E-mail	**No**	Yes	Yes
E-mail updates	**No**	No	Yes
E-commerce	**No**	No	Yes
Customer Database	**No**	Yes	Yes

Accounting Information Systems

As seen in table 1, Coachman Clothiers has fallen behind its competition in its use of information technology. Currently, Coachman does not utilize any IT.

While Coachman has chosen a strategic position that enables it to focus its efforts, it is not using information technology and an AIS to maintain that position. So, what is an AIS and how could one help Coachman maintain its strategic position?

An accounting information system consists of people, procedures, and information technology [and]...*performs three important functions in any organization* (Romney and Steinbart 2). First, an AIS gathers and stores data so the company can review activities and transactions. Secondly, *it processes data into information that is useful for making decisions that enable management to plan, execute, and control activities* (Romney and Steinbart 2). Thirdly, the AIS provides controls to safeguard the company's data and makes sure the data is accurate, reliable, and available upon request.

Figure 2: *Factors Influencing Design of the AIS* (Romney and Steinbart 7)

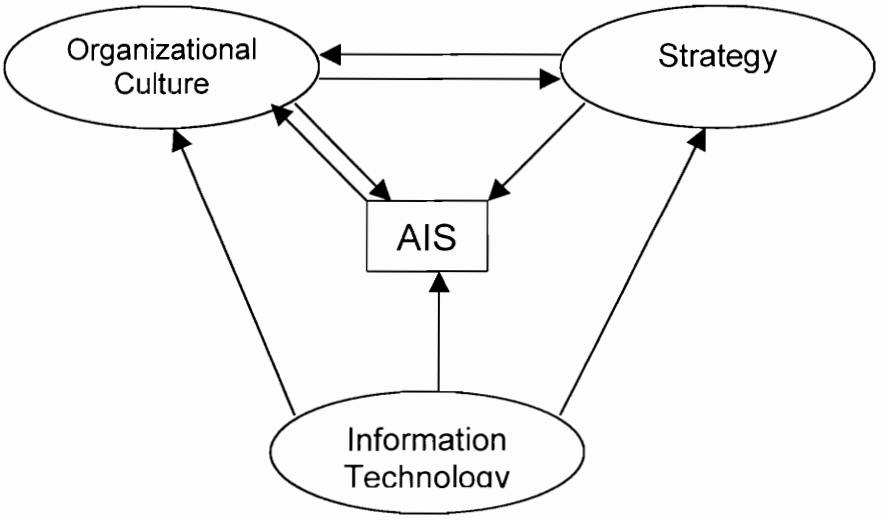


Figure 2 shows factors that influence the design of an accounting information system. Organizational culture is an important factor. Organizational culture influences a company's strategy and potential AIS. It incorporates basic values the employees and the organization hold. Currently, Coachman is not a company that relies on IT for its day-to-day operations. Therefore, when designing or deciding which AIS to implement at Coachman Clothiers, rejection of the new system by employees is a threat. Thus, to succeed, Coachman must choose a system that will be congruent with the culture and strategy of the organization.

However, once the system is implemented, the organizational culture is consequently affected by the accounting information system. *One way it does so is through choices on how, and to whom, it disseminates information* (Romney and Steinbart 7). Therefore, Coachman must decide who will see information on financial matters, inventory levels, etc., and how the information will be used to make decisions.

The increase of relevant, reliable, and up-to-date information to make better decisions is the most significant benefit of an accounting information system. A well-designed *AIS can improve decision making by providing accurate information in a timely manner to appropriate employees* (Romney and Steinbart 12-3). It helps in the decision making process by providing tools such as reports to identify potential problems and feedback to see results of previous actions. For Coachman, an AIS could supply valuable information such as inventory

levels, customer credit, and quality control and assist management in the decision making process.

Coachman Clothiers' Current Manual System

An accounting information system would drastically change Coachman's current manual system. Coachman Clothiers' current system is documented by the flowcharts in appendix A. Flowcharts give a visual understanding of an organization's current system, and they show how the different documents flow through it. In the following section, each flowchart is described along with a discussion on how an accounting information system could improve the processes depicted on each flowchart.

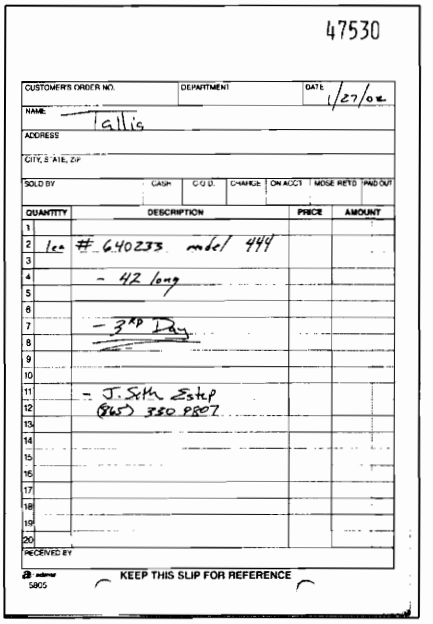
Purchases Flowchart

The purchases flowchart analyzes Coachman's procurement cycle. Looking at the 'Advanced Inventory Purchases' on the left side of the purchases flowchart, the employees meet with the vendor sales representative. They decide which items to purchase, and the vendor sales representative fills out a purchase order form. The original copy goes to the vendor, and the carbon copy is given to Coachman, where it is filed by the vendor name in the advanced order vendor files.

The other side of the purchases flowchart deals with immediate inventory purchases. This side incorporates inventory fill-in orders and customer orders. For this process, the sales associate will take the customer's special order or sort and decide which inventory items to fill-in. The associate will then prepare a purchase order and call the vendor to order the merchandise. After this process,

both copies of the purchase order are filed together by vendor in the immediate order vendor files.

Figure 3: Example of Customer Special Order


47530

CUSTOMER'S ORDER NO. | DEPARTMENT | DATE 1/27/06

NAME Tallis

ADDRESS

CITY, STATE, ZIP

SOLD BY | CASH | C.O.D. | CHARGE | ON ACCT. | MDSE RET'D | PAID OUT

QUANTITY	DESCRIPTION	PRICE	AMOUNT
2	Lev # 640233 mdl 449		
4	- 42 long		
7	- 3RD Day		
11	- J. Sth Estep (865) 350 PRET		

RECEIVED BY

KEEP THIS SLIP FOR REFERENCE

5805

The activities involved with immediate inventory purchases could be streamlined with the help of an accounting information system. First of all, the process of sorting and deciding which items to fill-in could be eliminated. An AIS could deliver inventory level reports that would allow the associate to see which items are out of stock. This would cut out the time consuming task of manually going through the stock on-hand and ordering the needed inventory. This improvement would save time and money by decreasing the chance of human error, which could lead to overbuying and excess inventory.

Secondly, an AIS could help prevent ordering goods for customers who have a history of not purchasing the ordered merchandise. Currently, an associate can order anything with no regard for whom it is ordered or the desired quantity. And since no down payment is required, Coachman could end up with an excess of inventory due to customers not buying what is ordered for them. Presently, Coachman does not have a way to track the items not purchased or the customers that are not purchasing them. An AIS could provide reports on both, which would give management the proper tools to decide for whom and

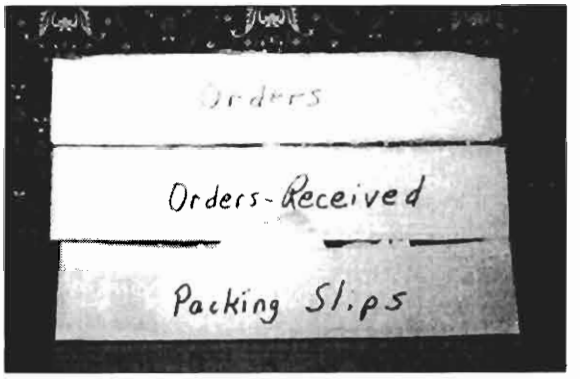
what to order. Thus, an AIS gives Coachman the means to cut cost by decreasing the chances of attaining unwanted inventory.

Thirdly, the data collected from these special orders could assist management in the future buying process. Here again, an AIS could be used to run queries for management to see exactly what inventory has been special ordered, including style, color, sizes, etc. This could provide valuable information on what items and sizes were most frequently ordered, which could save Coachman money by more accurate advanced inventory purchasing.

Receiving Flowchart

The receiving flowchart shows how the orders placed in the purchases flowchart are received. Looking at the side dealing with advanced inventory orders, the employee gets the packing slip off the package of goods received from the vendor. He will take the packing slip, retrieve the appropriate purchase order, and match the purchase order with the packing slip and the goods received. Subsequently, he will check off the goods received on the purchase order and file the packing slip by date received, and the purchase order will be placed back into the advanced order vendor files.

Figure 4: Immediate Inventory and Customer Order Files



The receiving of the immediate inventory and customer orders is similar. The document flow for the first part is the same. The employee gets the packing slip from the goods received. He will take

the packing slip, retrieve the appropriate purchase order, and match the purchase order with the packing slip and the goods received. Next, he will check off the goods received on the purchase order and file the packing slip by date received and the original purchase order by vendor in the trays shown in Figure 4. However, the P.O. carbon copy is used to call and notify the customer that his order has been received, and then the copy is disposed of in the trash.

With the use of an AIS, the purchase orders would have already been filed electronically. The electronic files would diminish the number of lost purchase orders and allow the employees to find them quickly with a simple criteria search. The employee could then compare the packing slip with the P.O. and enter the items received in the appropriate table.

Cash Disbursement Flowchart

The cash disbursement flowchart analyzes the document flow of the payment of the goods received. David, the president and CEO of Coachman Clothiers, receives an invoice from the vendor. He then posts the amount owed to the vendor on the accounts payable subsidiary ledger by due date and files the invoice by date received. Gail, the vice-president, co-owner, and bookkeeper of Coachman Clothiers, looks at the accounts payable subsidiary ledger to see which invoices are due that week. She totals up the amount owed to each vendor, prepares and signs the checks, and mails the checks to the vendors.

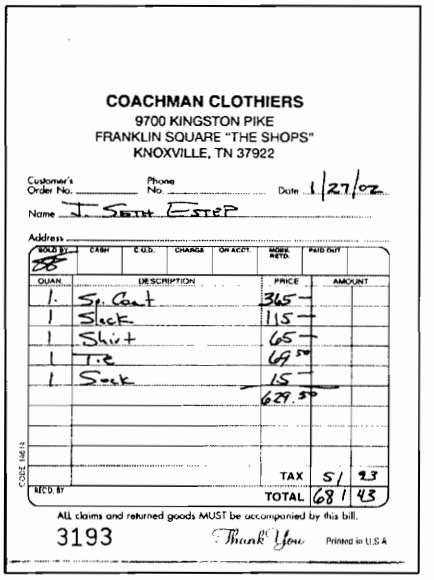
Currently, there is no compare and verify process that matches the purchase and receiving documents involved for accounts payable. Before David posts the amount of the invoice to the accounts payable subsidiary ledger, a

compare and verify process needs to be initiated. However, this process would be too time consuming to implement in the current manual system. An AIS would improve and cut down on the time needed for this process by running a query to see if the items received from a shipment is equal to the amount on the invoice. Such a procedure would eliminate overpaying or paying for goods not received. An accounting information system would also benefit Gail by totaling up the amount owed to each vendor, preparing the check, and posting the payment to the ledger. This would cut down on mistakes and save a significant amount of time.

Sales Flowchart

The sales flowchart shows the document flow involved in the sale of the goods in Coachman's inventory. A sales associate sells the goods to a customer. For this transaction, the associate writes up a ticket, calculates the total, and receives cash, check, or credit card. He then gives the customer a carbon copy of the receipt, and the currency and the original sales ticket are temporally stored in a cash drawer.

Figure 5: Example Sales Ticket



COACHMAN CLOTHIERS
9700 KINGSTON PIKE
FRANKLIN SQUARE "THE SHOPS"
KNOXVILLE, TN 37922

Customer's Order No. _____ Phone No. _____ Date 1/27/02

Name J. Smith Estep

Address _____

SOLD BY	CASH	C.O.D.	CHARGE	ON ACCT.	MDSE. RETD.	PAID OUT
28						

QUAN.	DESCRIPTION	PRICE	AMOUNT
1	Sp. Coat	365 —	
1	Slack	115 —	
1	Shirt	65 —	
1	Tie	69 50	
1	Sock	15 —	
		629 50	
		TAX	51 93
REC'D BY		TOTAL	681 43

ALL claims and returned goods MUST be accompanied by this bill.

3193 Thank You Printed in U.S.A.

The next morning, David compares the receipts and the payments and runs a batch total for the charges. David then posts the totals to the sales journal, accounts receivable subsidiary ledger, and the general ledger. The receipts are filed together by date. David endorses the checks, prepares a

deposit slip, and deposits the money in the bank, and a copy of the deposit slip is filed by date.

An AIS could assist the sales staff in its efforts to differentiate its service. The AIS could provide the staff with specific purchase histories that would enable the sales associate to know the buying power and trends of specific customers. The AIS could also deliver reports that show which merchandise has been in inventory the longest and needs to be turned. On the other side of the chart, the accounting information system could save David time by automatically updating the journals and ledgers and preparing the bank deposit slips.

Payroll Flowchart

Gail is involved in all of the tasks associated with payroll at Coachman Clothiers. First of all, she receives the time cards of the sales associates and a list of alterations the tailor completed the previous week. She then manually computes the paycheck, codes the paycheck stub for tax information, and updates the payroll register. The time cards and alteration list are filed by employee name. The check is given to the employee, and the coded paycheck stub is sent to the accountant. Later, the accountant sends her the quarterly payroll tax forms and each employee's annual W2 form. Subsequently, Gail verifies the tax information and sends a check. She also verifies and disperses the W2s to each employee, and a copy of each W2 is filed alphabetically by employee name. The quarterly payroll tax forms are filed by date.

Gail would benefit from the addition of an accounting information system. She currently spends time manually adding up the paychecks and taking out the

appropriate taxes. The AIS would do this manual calculation for her. It would compute the totals, print out the checks, and automatically update the payroll register. Consequently, Coachman would cut down on its expenses by eliminating the work done by its accountant to produce the annual W2 and quarterly payroll tax forms because the AIS would produce them for her without any additional inputs.

In summary, an accounting information system could automate Coachman's current manual system. It could help management in the purchasing process by delivering inventory reports showing what items need to be filled-in, what items turned the quickest, and what items did not sell. An AIS would assist in the receiving process by saving the employees time in comparing the packing slip with the electronic purchase order by simply checking-in the items received in the appropriate table, which would help cut down on receiving items not ordered. In turn, the information entered into the receiving table would assist the bookkeeper in comparing the items received with the invoice in the cash disbursement cycle. In addition, the AIS would aid the sales staff by delivering reports that would help differentiate its service in the sale and follow-up process by knowing each customers' purchase history as well as their sizes. Finally, an accounting information system would automate the payroll process by storing all the appropriate data and computing paychecks, W2s, and payroll tax forms.

REA Data Modeling

Resource, event, agent data modeling is a database design method proposed by William McCarthy that could be used to convert Coachman Clothiers' manual system into an automated one. The mission of REA is to develop a well designed information system that identifies the people, resources, and events involved to gather, sort, analyze, and distribute needed, timely, and accurate information to decision makers. In 1982, *McCarthy proposed that the REA framework be used as a starting point for enterprise-wide database design* (Dunn and McCarthy 34). McCarthy's model breaks down the business operations into basic resources, events, and agents.

A resource is an object that is scarce and under the control of the organization. Cash is an example of a resource. The firm's resources are increased and decreased through transactions called events. An example of an event is a sale. In REA data modeling, there are several types of events. The first is an economic event. Economic events are the events that actually represent the increase or decrease in the quantity of a firm's resources. David says identifying the economic events is the first step involved in REA analysis (6).

After the economic events are identified, the next step is to add the subsequent resources and agents to the model. In REA modeling, agents are used as a control to identify who is involved in every transaction, and for each transaction, an inside and outside agent must be present.

Figure 6: An Economic Event Level REA Diagram for Coachman Clothiers

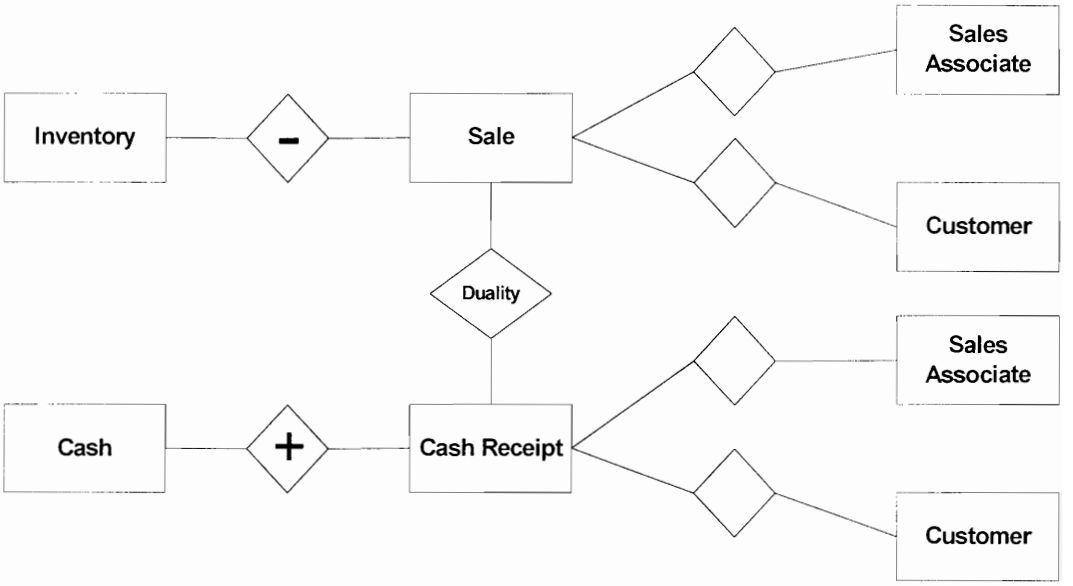
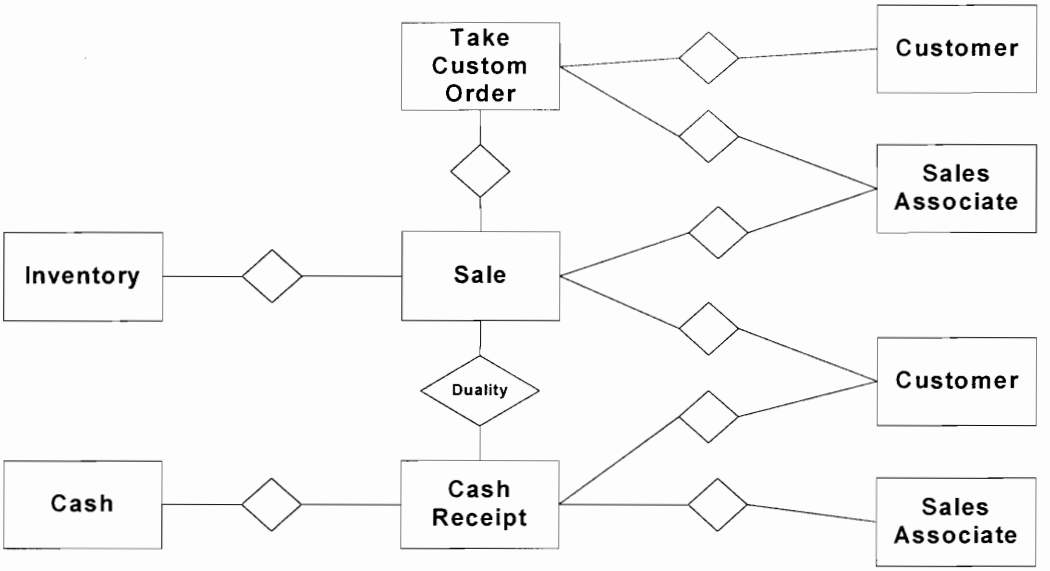


Figure 6 is an economic event level REA diagram for Coachman Clothiers that shows how the resources, events, and agents are connected in a data model. Figure 6 can be read as follows: an Associate's (inside agent) sale (event) exchanges inventory (resource) for cash (resource) with a customer (outside agent) in a cash receipt event.

The two events in Figure 6, 'sale' and 'cash receipt', comprise an economic exchange. The events of an economic exchange have a duality relationship. *Duality relationships associate the duel parts of a single economic exchange* (Dunn & McCarthy 34). In other words, a resource must be given up to receive another resource in return. In Figure 6, inventory is given to the customer in the 'sale' event to receive cash in the subsequent 'cash receipt' event. Thus, a duality relationship is present between the two events.

However, economic events cannot identify all of Coachman's information needs. Further analysis must take place by identifying events that do not directly increase or decrease a firm's resources but are needed by management to make informed decisions. These types of events are called business events. Business events are the activities that management wants to plan, supervise, and evaluate. An example of a business event for Coachman is 'take custom order'.

Figure 7: A Business-Event-Level REA Diagram for Coachman Clothiers



The business event 'take custom order' is shown in Figure 7. The event is an addition to or supports the sale event. At Coachman, a sale can involve selling in-stock inventory or custom ordering garments that are available through Coachman's vendors. The custom order information is valuable to Coachman's management for planning future inventory purchases. The information could enable Coachman to purchase more accurately in areas such as sizes and types

of clothing, and attempt to decrease the number of custom orders, which are more expensive for the organization. Therefore, the business event should be modeled and added to the diagram to collect the appropriate data.

After all the appropriate business events have been added to the REA diagram, information events are addressed. Information events are *procedures that are performed in organizations solely to capture, manipulate, or communicate information* (David 16). The fact that no new data is identified separates information events from economic and business events. Examples of information events include creating invoices or, in the case for Coachman Clothiers, productivity reports.

The productivity reports are needed by management to see if the employees are working at a level that is congruent with their salaries. For example, since the sales staff's pay is not commissioned based, management could easily over or under estimate the sales production of each associate. Therefore, management would like a productivity report to know the number and dollar amount of each associate's sales to see if their salaries are equivalent to their sales production.

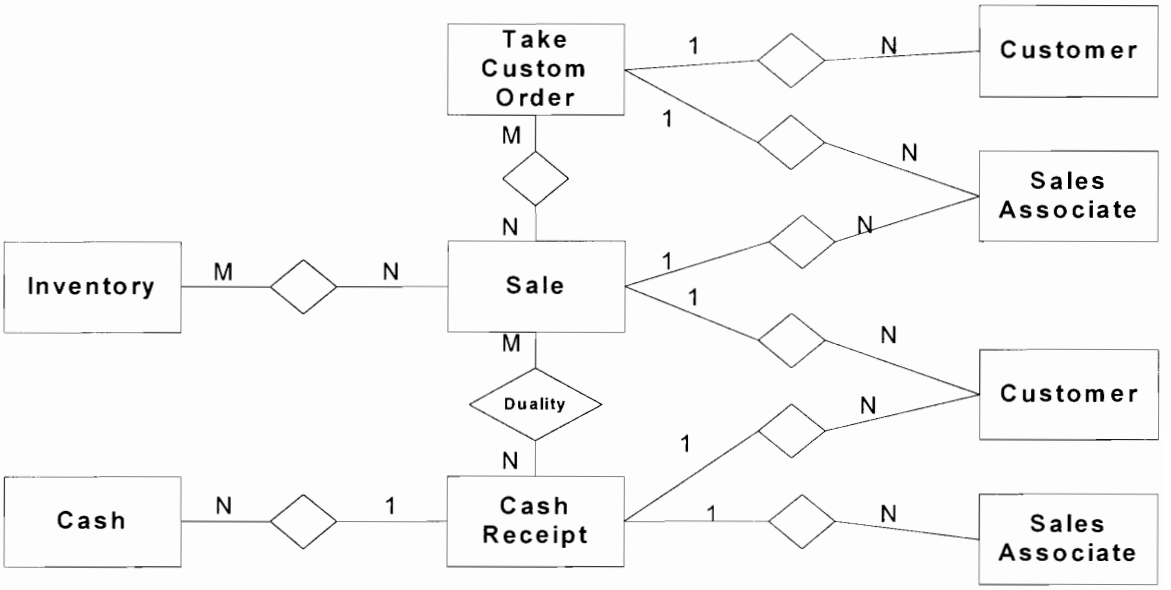
Figure 1-b in appendix B is a full scale, business-event-level REA diagram for Coachman Clothiers. When viewing figure 1-b, notice the resource, 'employee service', and the event, 'productivity'. These two tables were originally placed in the diagram for management to track the salary and productivity information. However, upon further analysis, the information is available without inputting new data into the database. Instead, the needed productivity and

salary information can be obtained with a query. The productivity information can be pulled from the tables, 'sale' and 'tailor clothing', and the salaries can be obtained from the 'employee' table. It is merely manipulating and communicating information that has already been inputted. Consequently, there is no need to document the information event in the REA model. Instead, the information events will be used in the implementation process when deciding which reports and queries the system will produce. The resulting REA diagram is figure 2-b in appendix B.

The final analysis in designing a REA diagram is identifying the relationships between the different entities. These relationships are also known as cardinalities. Cardinalities are added to the diagram after the economic and business events have been modeled. Cardinalities are a control feature and *a property of a data base relationship, indicating the number of occurrences of one entity that may be associated with a single occurrence of the other entity* (Romney 734). Maximum cardinalities are necessary to define database relationships and the physical database structure. There are three possible types of maximum cardinalities: one-to-one (1:1), one-to-many (1:N), and many-to-many (M:N).

Figure 8 is a business-event-level REA diagram for Coachman Clothiers with the addition of the maximum cardinalities. For this example, there are both 'M:N' and '1:N' relationships. With the addition of the cardinalities, the diagram

Figure 8: A REA Diagram w/ Maximum Cardinalities for Coachman Clothiers



can be fully explained in terms of the organization. For example, look at the 'inventory', 'sale', 'sales associate', and 'customer' section of the diagram. The relationships between the entities can be read: a style # of clothing can be sold many (M) times, and a sale can involve multiple (N) style #s. In addition, a sale can involve a single (1) customer and one (1) employee, but both an employee and a customer can be involved in many (N) sales events.

After the cardinalities are added to a REA diagram, the needed tables that will capture the database information can be identified. The tables are the storage devices of the system. They contain the important data the organization is attempting to capture about each entity of the diagram. Thus, *one table would be created for each entity on the organization's business event-level diagram* and every many-to-many relationship (David 18).

Table 2: Tables needed from Figure 5 for Coachman Clothiers Database

Table	Primary Key(s)	Other Attributes
Clothing	Item #	Vendor, Style #, Model #, Color, Size, Quantity, Type, Cost of Goods, Selling Price
Sale	Sale#	Customer #, Employee #, Date, Item#, Quantity, Price, Tax, Total
Sale--Clothing	Sale #, Style #	Sale Amount, Cost of Goods Sold
Take Custom Order	CO #	Date, Vendor, Style #, Model #, Color, Type, Quantity, Size, Customer Name, Phone#
Sale--Take Custom Order	Sale #, CO #	# Items Ordered, # of Items Sold, Sale Amount
Cash Receipt	Cash Receipt #	Employee #, Customer #, Amount, Date, Form of Payment
Cash Receipt--Sale	Cash Receipt #, Sale#	Amount Received
Cash	Account #	Date, Balance
Customer	Phone #	Last Name, First Name, Address, Other Phone #, E-mail, Discount (y/n), Misc. Comments
Employee	Employee #	Last Name, First Name, Date of hire, Title/Position, FT/PT, Address, Phone #, Cell #, Total Vacation Days, Vacation Days Used, Sick Days, Sick Days Used

Table 2 shows the tables and their associated attributes that would be created for figure 8. A table was created for each of the entities and each 'M:N' relationship. As seen, each table contains a primary key and other attributes that capture the appropriate data that management would like to view. A primary key uniquely identifies each row in a table. For a single entity table, the primary key is only one attribute. However, *the primary key for many-to-many relationship tables always consists of two attributes, representing the primary keys of each entity linked in that relationship* (Romney and Steinbart 193). For example, the primary key for the 'cash receipt-sale' table consists of both 'cash receipt #' and 'sale #'. In turn, the data can be uniquely identified and converted into valuable information through reports and queries.

The REA data modeling process was conducted on Coachman Clothiers. The final diagram is Figure 3-b in appendix B. It is the complete full-scale,

business-event-level REA diagram for Coachman Clothiers with cardinalities. In addition, Appendix C contains explanations of the resources, events, and agents of figure 3-b in terms of the modeled relationships and describes the information management will gather from each section of the database.

Software Demo: QuickBooks Pro 2001

Now that Coachman has been modeled in terms of its resources, events, and agents, it can now decide on an accounting information system that is congruent with its strategy, culture, and REA data model. In doing so, Coachman must decide which potential AIS will likely give the greatest return.

QuickBooks Pro is an accounting information system that could possibly fit the AIS needs of Coachman Clothiers. Findaccountingsoftware.com states that QuickBooks Pro is the leader in accounting software for small business with more than 80% of the retail market. It is an AIS that can be updated from a manual system, and employees with no computer competence can be trained easily to use, understand, and migrate QuickBooks Pro.

To demo the software, the REA diagram was used to test if QuickBooks Pro would meet the AIS requirements of Coachman Clothiers. The following section contains a description of the method that was used to demo the software. After which, the results of the demo are stated, and finally, a discussion section is written on these results. The discussion includes the benefits of the software package, an inventory tracking analysis, and the cost of implementing the accounting information system.

Method

Demo checklists were created from figure 3-b, the REA model for Coachman Clothiers, for the needed tables and reports/queries (See appendix D). For the tables' checklist, a total of 23 tables were created, one for each resource, event, agent, and each many-to-many relationship. Each table contains a primary key that uniquely identifies each record and other relevant attributes. Two columns were designed to fill-in information during the demo. One was for the name of the actual QuickBooks module that represents each desired table. The other was made to write down the number of desired attributes present.

As mentioned above, a reports and queries checklist was also created. Reports and queries are a powerful tool of an information system. They extract data from multiple tables and show management relevant information in an easy to read format. The reports can be both summary level or detailed. For Coachman, a total of 22 desired reports/queries were created with a column to be filled-in stating the QuickBooks module and a 'Y/N' column to show if the report is or is not present in the software package.

After the checklists were completed, the QuickBooks Pro demo software was downloaded. It was evaluated for one week using the sample data from the demo disk, and then, Coachman Clothiers was setup using the QuickBooks Pro company setup feature. The two checklists were used to demo the software, and each attribute present was circled and the relevant columns were filled-in and summed.

Results

Appendix E contains the results of the demo with both checklists filled-in. Twenty of the twenty-three tables on the checklist are present in QuickBooks Pro, as well as eight-two percent of the attributes. The three missing tables are 'sale-clothing', 'customer-employee', and 'sale-take custom order'. However, the 'sale-clothing' information can be found in a sales report, which takes information from both the 'sales receipt' and 'item receipt' tables. The other two missing tables are 'M:N' relationship tables, and QuickBooks Pro does not have the ability to track these tables or present the information in reports.

For the reports and queries checklist, eighteen of the twenty-two reports are found in QuickBooks Pro. The four missing are 'Receiving to Sales by Date', 'Inventory Turnover', 'Customer Custom Order', and 'Customer-Tailoring Demand'. In addition, the 'Quarterly Tax Report' can be found by integrating QuickBooks Pro into TurboTax. The missing reports, 'Inventory Turnover' and 'Receiving to Sales by Date', are not serious due to QuickBooks ability to produce the report, 'Inventory Turnover in Days', which gives similar information. However, Coachman would like to see the reports, 'Customer Custom Order' and 'Customer-Tailoring Demand', to see the costs of both activities due to the demands of each customer.

Discussion

After completing the Demo, QuickBooks Pro is an AIS software package that meets the demand of Coachman Clothier's strategy and REA data model. The software could automate Coachman's current manual system, save the

organization time and money, and deliver accurate, detailed reports that would assist management in decision making. In addition, QuickBooks Pro has many features that make it easy to implement and transition from a manual system. One is the company setup feature.

The QuickBooks Pro setup feature was evaluated during the demo. The feature allows any organization to get started quickly with industry specific help. The retail industry was selected for Coachman, which included easy-to-follow onscreen forms and retail tips in each section. However, it is important to pay attention to the questions during the setup because the user must make some important choices in order to run certain applications of the software.

For Coachman, an important choice in the setup would be the option to track inventory. QuickBooks Pro suggests that retail businesses like Coachman Clothiers choose the inventory tracking option. Currently, Coachman does not keep a running total of its inventory. Thus, the software's ability to track inventory would be an advantage over Coachman's current system by giving management up-to-date information on inventory status and trends to assist with inventory purchasing decisions.

If Coachman chooses the inventory tracking option, it must decide on a method of coding its inventory, so the information can be properly entered and setup in QuickBooks Pro. To properly complete the setup, Coachman could divide the inventory into three departments. Possible departments could be tailored clothing, casual clothing, and accessories. Each department would be coded with an identification number such as 100, 200, and 300. After which, the

three departments could be further segregated by type. For example, the tailored clothing department could be divided into suits, sport coats, and slacks, and SU, SC, and SL could identify each accordingly. Therefore, a suit would have an ID of 100SU.

The coding process would be done for the other two departments, and Coachman would continue the process by segregating the department types into vendors. In the tailored clothing department, Coachman sells Austin Reed, Hart Schaffner & Marx, Franco Tassi, and Tallia suits. Two initials could be used to identify each vendor. For example, an Austin Reed suit could have an ID of 100SU-AR.

Table 3: Inventory Tracking Breakdown Example for Coachman Clothiers

Level 1	Level 2	Level 3	Level 4	Level 5
by Department:	by Type:	by Vendor:	by Style #	by Size:
Tailored Clothing	*Suits*	*Austin Reed*	*1513468*	*42 regular*
(100)	*(SU)*	*(AR)*	*(1513468)*	*(42R)*
Example identification #: 100SU-AR-1513468-42R				

The coding process would create an identification number that would identify each item in Coachman's current inventory. For Coachman, the segregation of inventory needs to continue until the vendors are divided into each style number, and the style numbers are separated by sizes. Table 3 is an example of the level at which Coachman could decide to track its inventory without becoming confused and overwhelmed. Level 5 in table 3 would be a good stopping point for Coachman Clothiers.

After the inventory has been coded and the setup process completed, the inventory would be entered and stored in the 'Item List' window of QuickBooks Pro. The 'Item List' contains all the needed inventory table attributes on the demo checklist. These attributes include the identification number, the vendor, the style number, the quantity on hand, and the cost of goods sold. The identification number attribute would be the primary key for each inventory item that would be used by the sales associates to enter a sale, and the number would be used by QuickBooks Pro to produce the inventory, inventory turnover in days, productivity, and customer purchase history reports. In addition, Intuit is currently working on a point of sale system that will be available in Spring 2002 that could be integrated into QuickBooks Pro. The point of sale software would help retail businesses like Coachman by scanning in the inventory upon receipt and out at the end of a sale. The associates would never have to manually enter sales and inventory data into QuickBooks Pro again.

The 'Item List', in addition to being the inventory table, would also be the storage device for the service products at Coachman. It could list each tailoring service provided and the cost of each. This feature would allow Coachman to track the revenue for the tailoring services on outside alterations and calculate the tailoring expense into the cost of goods sold.

Besides the inventory tracking feature, QuickBooks Pro has many other accounting attributes that would be beneficial to Coachman Clothiers. One of the most powerful of these is the general ledger. The general ledger contains summary-level data for every asset, liability, equity, revenue, and expense

account of the organization. QuickBooks Pro automatically updates the general ledger when new data is entered into the system. Thus, the information is entered only once, which decreases the chance of a clerical mistake and would save David and Gail an abundance of time over their manual system.

As stated earlier, QuickBooks Pro could automate Coachman's manual system, from placing the purchase order to paying the invoice. The following is a description of how the manual system would be automated by QuickBooks Pro. First, Coachman would enter the vendor navigation screen, and the purchase order would be typed in the 'place purchase order' window. Next, when the items arrive at Coachman, the associate would select 'receive item' and click 'select PO'. In the 'select PO' window, the user would click 'show PO' and check-in the appropriate items. In the 'receive item' window, the item, its description, the quantity, and total amount due would appear. This information would be used by QuickBooks Pro to compare the cost of the received items with the final invoice.

After the items have been received and the invoice has arrived at Coachman, the user would click 'receive bill' in the vendor navigation window and select the appropriate 'item receipt' that corresponds with the invoice. Next, QuickBooks Pro would automatically turn the 'item receipt' into a bill. This feature is a safeguard from being overcharged or being charged for items not received. Currently, David posts the invoices to a journal as they arrive. Gail then has to manually look through the journal, find the due invoices, add the invoices together, and write a check. QuickBooks Pro would eliminate all of Gail's manual duties.

To do this, David would enter the invoices in the 'receive bill' window. In turn, QuickBooks Pro would remind Coachman when the bills came due, and Gail would enter the 'pay bills' window and select all the appropriate invoices from a vendor. QuickBooks Pro would sum the invoices and print a single check for all the selected bills. As a result, the general ledger would be automatically updated, and the chances of not paying an invoice on time and incurring a late fee would be eliminated.

QuickBooks Pro also has other accounting functions that would be beneficial for Coachman Clothiers. QuickBooks Pro would track all of Coachman's financial information, from sales and accounts receivables to invoices and customer billing. In addition, QuickBooks Pro would expedite the collection of accounts receivables by e-mailing or faxing invoices directly to its customers.

The QuickBooks Pro payroll feature would be another powerful tool. The payroll service includes 940, 941, and 1099 forms, as well as preparing and printing W-2s. The payroll service also downloads tax table updates, prints paychecks, or pays the employees electronically with a direct deposit. In addition, federal and state payroll tax forms are prepared and filed electronically, which cuts cost by eliminating the need for outside accounting services.

The reporting capabilities of QuickBooks Pro would be one of the most prominent accounting advantages the software would deliver over Coachman's manual system. QuickBooks Pro will print 114 reports and graphs. As stated earlier, 18 of the 22 reports on the checklist are present in QuickBooks Pro.

Other beneficial accounting reports not found on the checklist include a balance sheet, a profit and loss statement, and a cash flow report. All of the relevant reports would give Coachman valuable information to answer questions in both financial and non-financial areas, and they would assist Coachman's management in making important decisions in areas such as inventory purchases and customer credit. Furthermore, QuickBooks Pro integrates with other important business applications such as Microsoft Word, Excel, and Outlook, which can increase business reporting by easily copying the information from the specified application.

In addition to reporting, QuickBooks Pro also prepares price estimates and quotes. This feature would allow Coachman to give accurate cost estimates to potential or current companies in Coachman's corporate bonus programs. QuickBooks Pro could be a valuable marketing tool in attaining new business with local companies, and it would cut down on the time it takes to prepare the estimates by saving the format of frequently used quotes.

The cost to implement the entire system would depend upon the amount of money allocated to invest in information technology. Since, Coachman does not currently utilize any IT, the cost to catch up with its competition and implement the AIS could be fairly expensive. Coachman can purchase QuickBooks Pro 2002 for $799.95 for the 5-user value pack. This pack allows five employees to simultaneously use QuickBooks Pro with access-controlled passwords that safeguard the organization's information. Coachman could also

purchase 2000 printed check stock and envelopes from www.quickbooks.com for an additional $260.00 to utilize the payroll and billing features.

To run the system, Coachman could purchase up to 3 workstations. The OptiPlex GX150 computer system from Dell would meet the IT needs of the software and could be purchased for approximately $1200.00 each. This system includes a computer with a 1.1 GHz Celeron processor, a 15" monitor, 256MB of RAM, the Windows 2000 operating system, a three-year warranty and technical support, a data and fax modem, a zip drive, and scanner. Coachman could use one computer in the receiving area, one in the cash receipt area, and one in the office. The workstations could be networked together with a hub and cables for around $300, and finally, a HP LaserJet 1200se high-resolution business printer could be added for $400.00.

Therefore, the total cost to implement 3 workstations with QuickBooks Pro would be approximately $5,360. However, if Coachman decided to purchase only one system, which would be used in the office, the cost would be only $2,660. This price excludes two workstations and the cost of the hub and cables. In addition, Coachman should allocate funds for training the employees to use QuickBooks Pro. Some licensed accounting firms hold both one and two-day general training sessions. However, Coachman could purchase a QuickBooks Pro tutorial for only $30.00 if it does not have any remaining funds to pay for the training classes.

Conclusion

Coachman Clothiers has a well-defined strategy that provides quality, differentiated service, tailoring, and men's clothing to the Knoxville area. Coachman's activities are congruent and reinforce the present strategy by coming together to give the customer confidence in his buying decision. However, as seen in table 1, Coachman has fallen behind its competition in its use information technology.

Information technology needs to be added to assist Coachman in better delivering its strategy of differentiated service. The implementation of an accounting information system like QuickBooks Pro is the first step Coachman should take to improve its use of IT. QuickBooks Pro would streamline the administrative work by automating and integrating the current manual system. In addition, QuickBooks Pro would give Coachman's sales associates the ability to track customer information to better serve its clientele and produce reports to assist management with decisions.

Coachman should not let the initial cost of implementing the system deter it from investing in information technology. IT is essential for competing and progressing in today's market. The implementation of an accounting information system like QuickBooks Pro would assist Coachman Clothiers' in taking its business to the next level and better meeting the demands of its strategic position, competition, and, most importantly, its customers by delivering better service, being more efficient, and saving time and money in the process.

Works Cited

David, Julie S. "Three 'Events' that Define an REA Approach to Systems Analysis, Design, and Implementation." Working Paper, Arizona State University, 1997.

Dunn, Cheryl L. and William E. McCarthy. "The REA Accounting Model: Intellectual Heritage and Prospects for Progress." Journal of Information Systems 11.1 (1997): 31-51.

Porter, Michael E. "What Is Strategy." Harvard Business Review November-December 1996: 61-78.

Romney, Marshall B. and Paul J. Steinbart. Accounting Information Systems. 8th ed. Upper Saddle River: Prentice Hall, 2000.

www.dell.com

www.findaccountingsoftware.com

www.menswearhouse.com

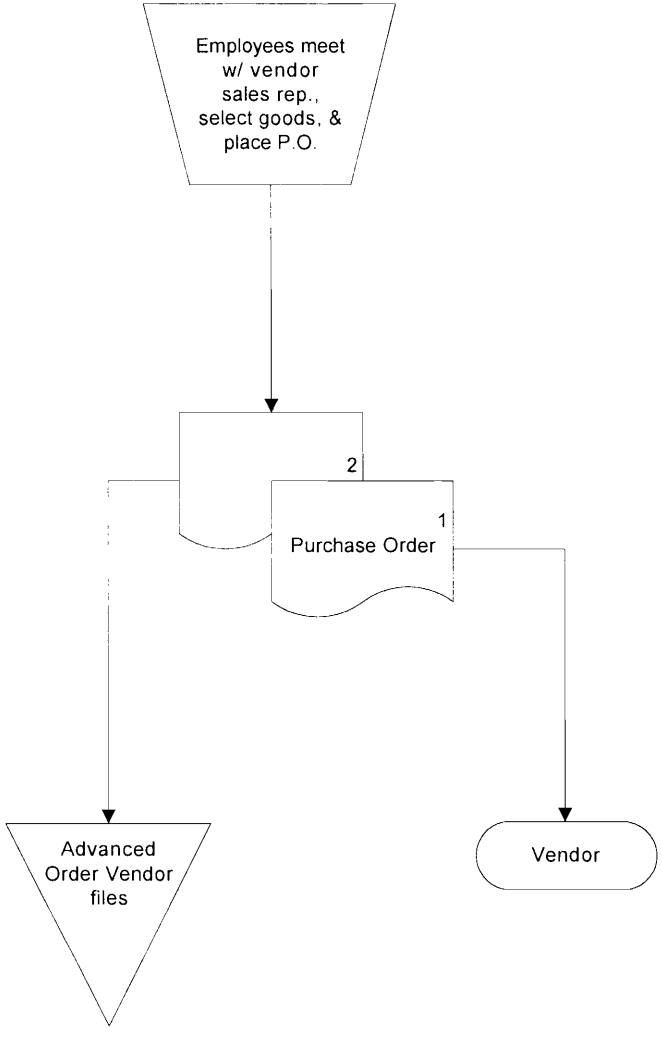
www.msmcclellan.com

www.quickbooks.com

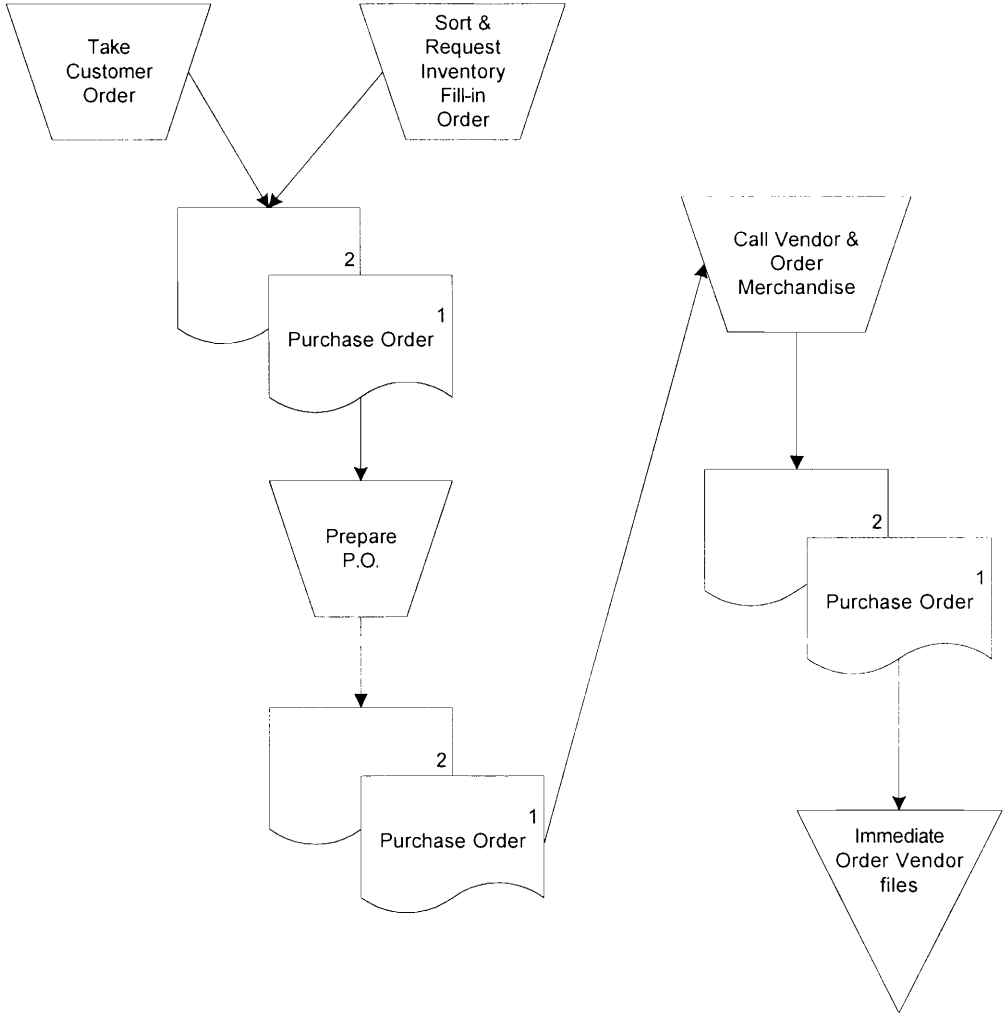
Appendix A

Purchases

Advanced Inventory Purchases

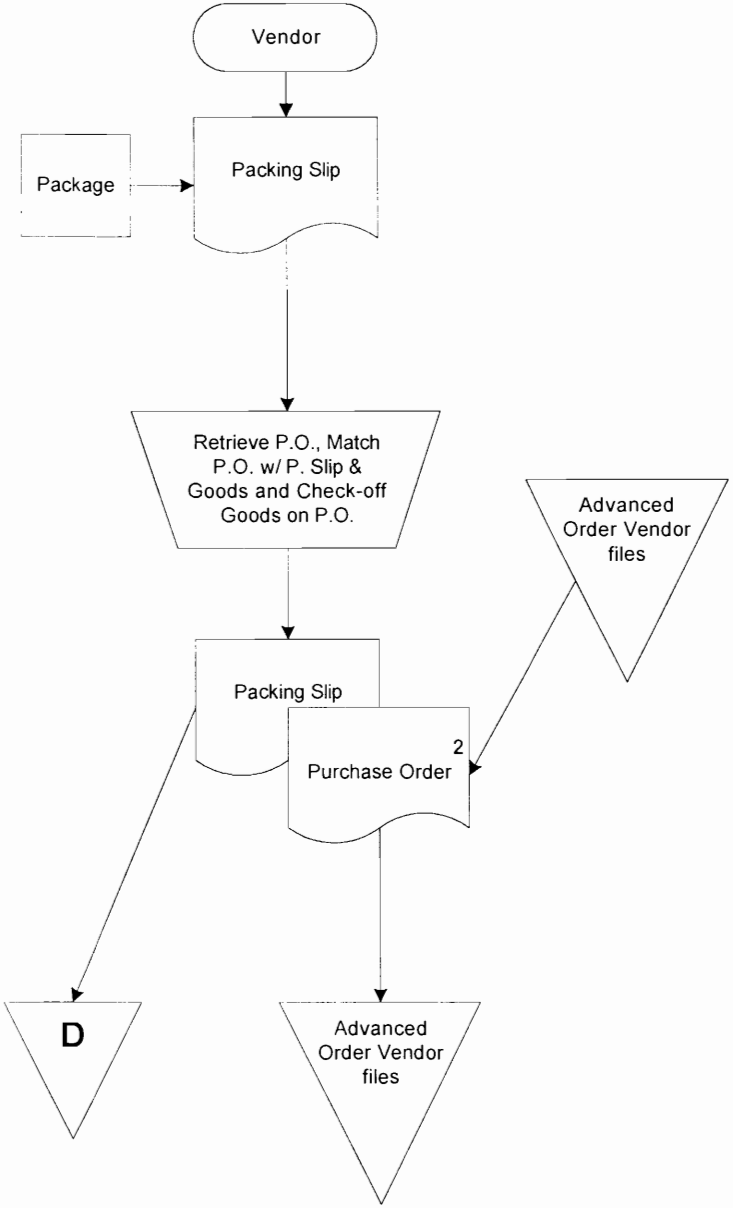


Immediate Inventory Purchases

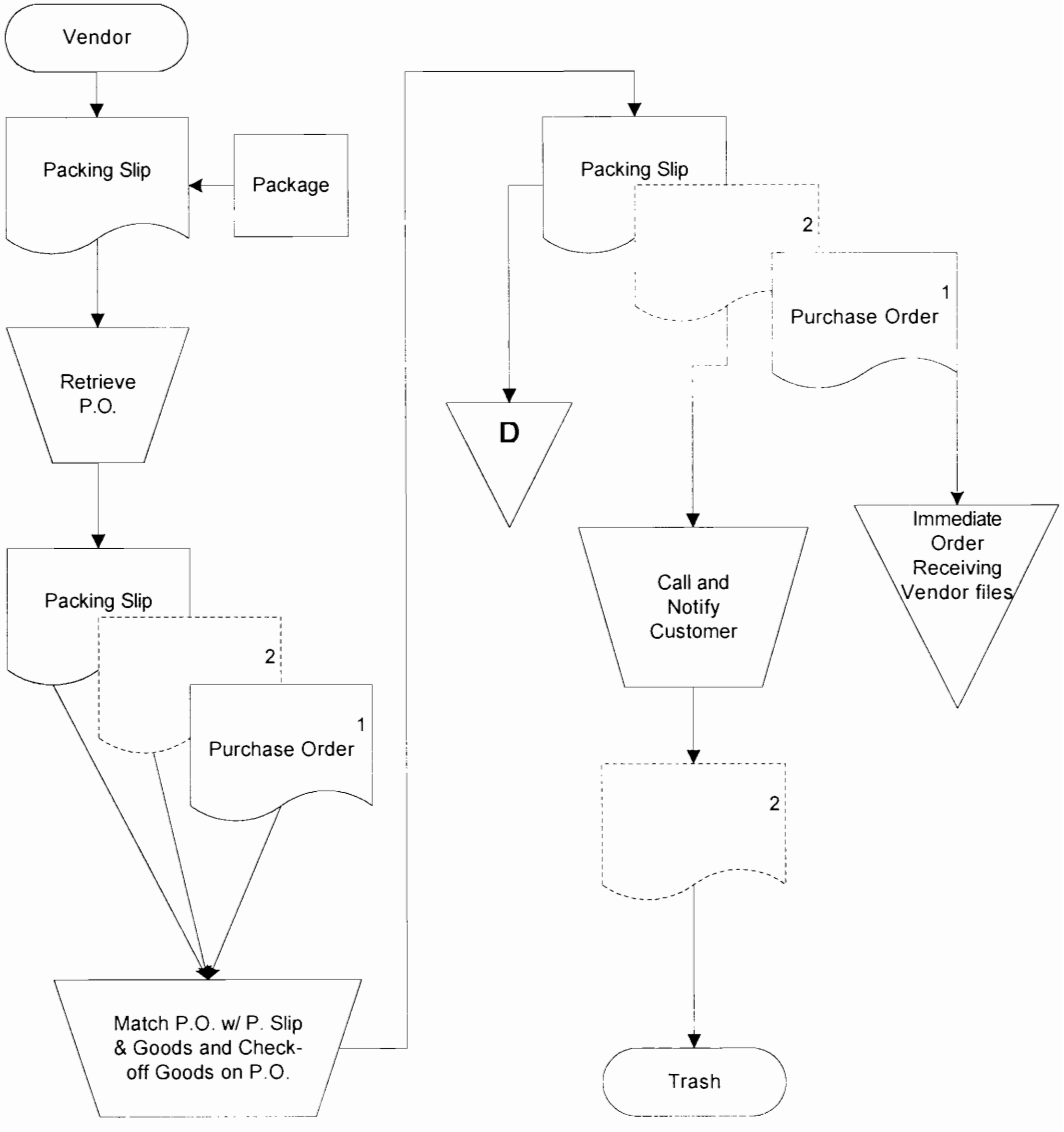


Receiving

Advanced Inventory Orders



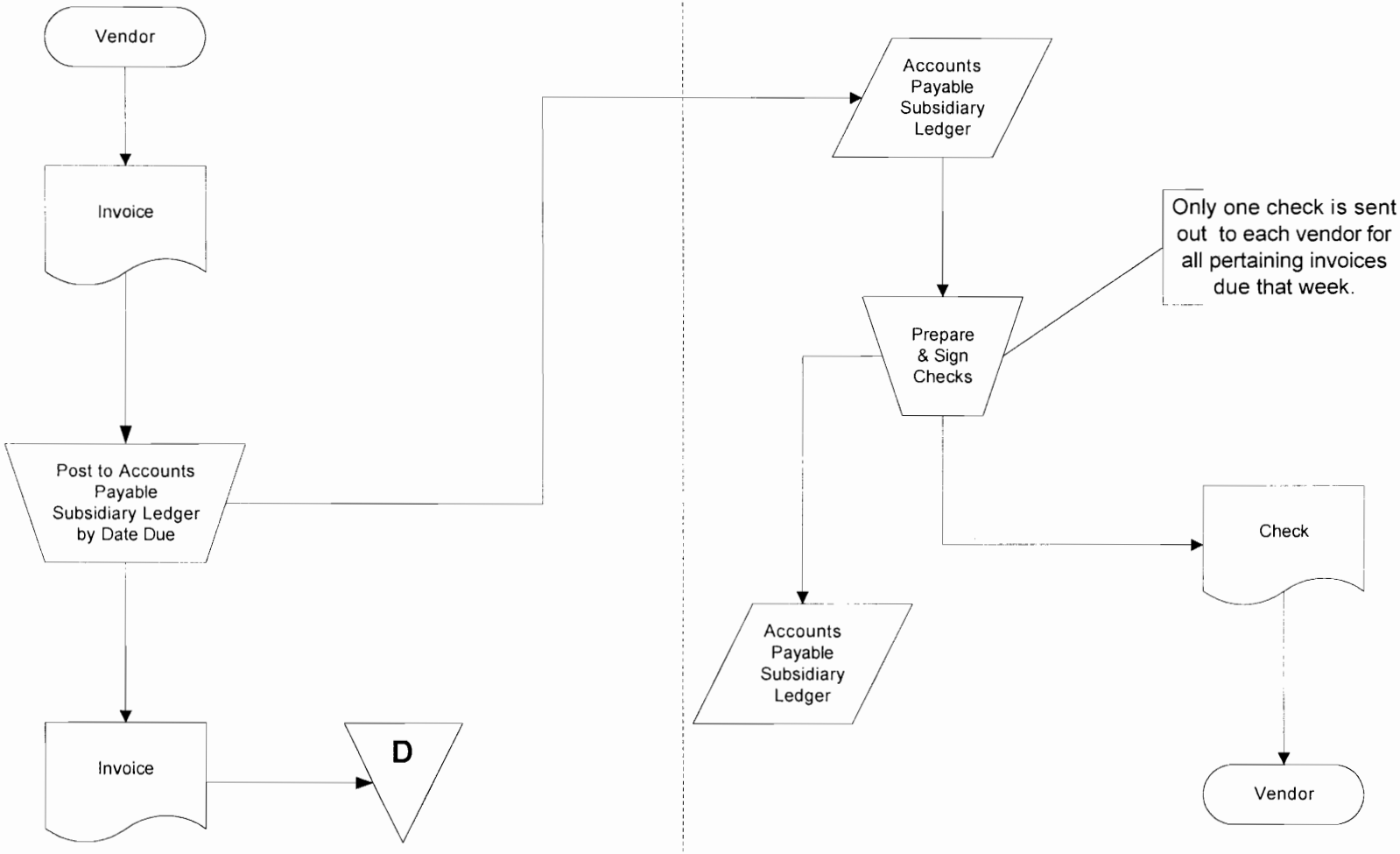
Immediate Inventory Orders



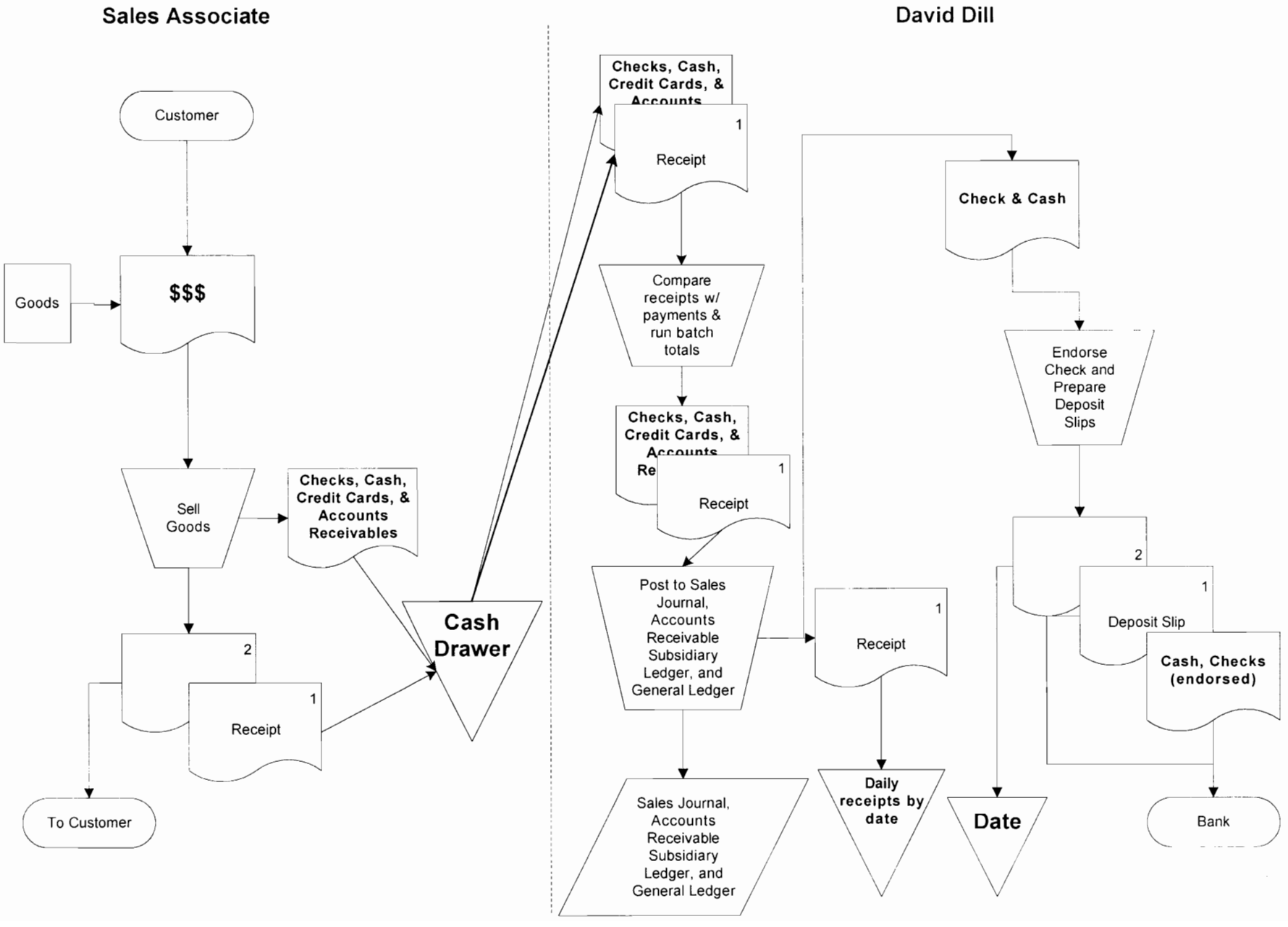
Cash Disbursement

David Dill

Gail Dill

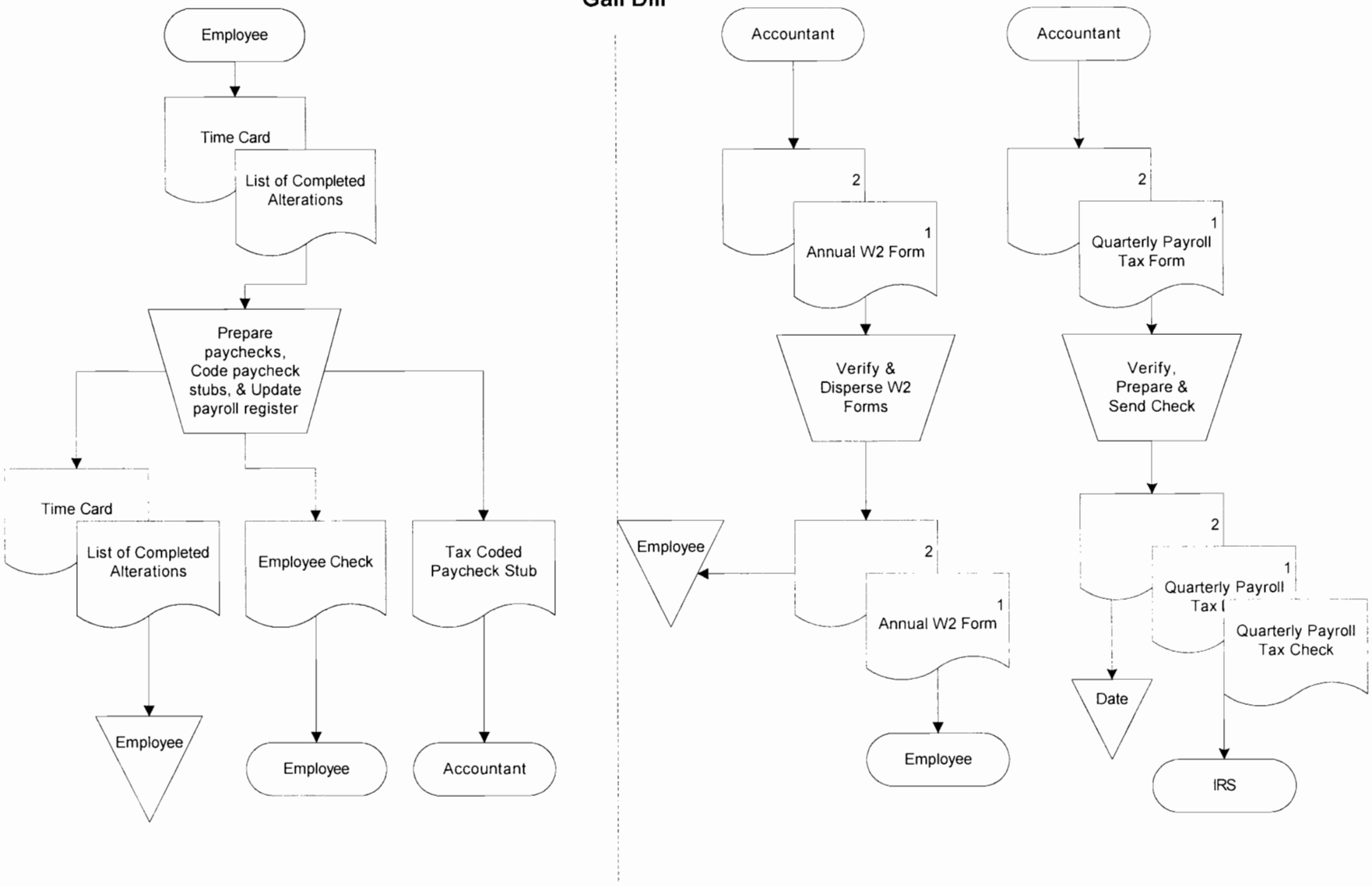


Sales


Sales Associate
David Dill
Customer
Goods
$$$
Sell Goods
Checks, Cash, Credit Cards, & Accounts Receivables
2
1
Receipt
To Customer
Cash Drawer
Checks, Cash, Credit Cards, & Accounts
1
Receipt
Compare receipts w/ payments & run batch totals
Checks, Cash, Credit Cards, & Accounts
Re
1
Receipt
Post to Sales Journal, Accounts Receivable Subsidiary Ledger, and General Ledger
Sales Journal, Accounts Receivable Subsidiary Ledger, and General Ledger
1
Receipt
Daily receipts by date
Check & Cash
Endorse Check and Prepare Deposit Slips
2
1
Deposit Slip
Cash, Checks (endorsed)
Date
Bank

Payroll

Gail Dill



Appendix B

Figure 1-b: REA Data Model w/ Business Events for Coachman Clothiers

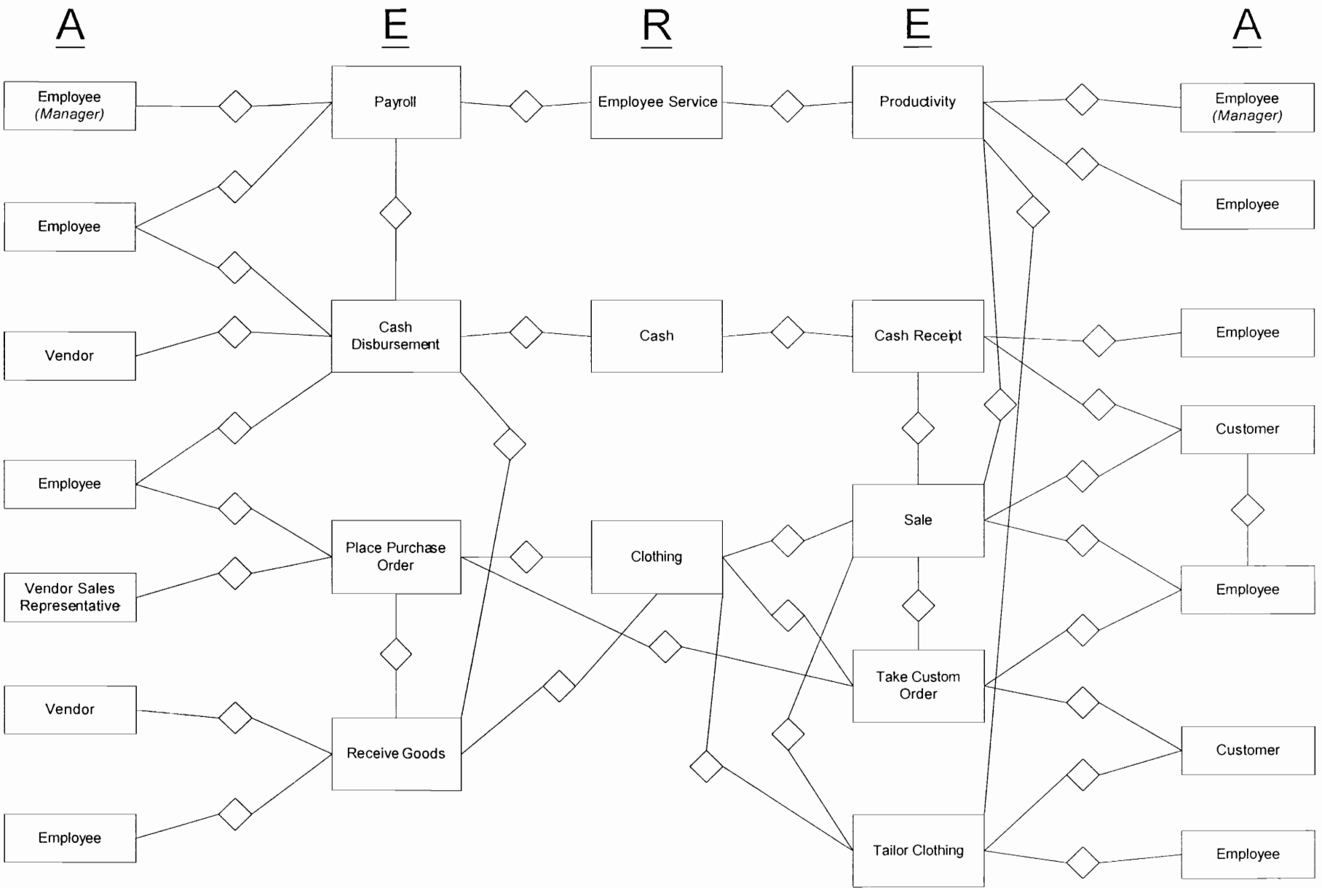


Figure 2-b: REA Data Model w/ Business Events for Coachman Clothiers

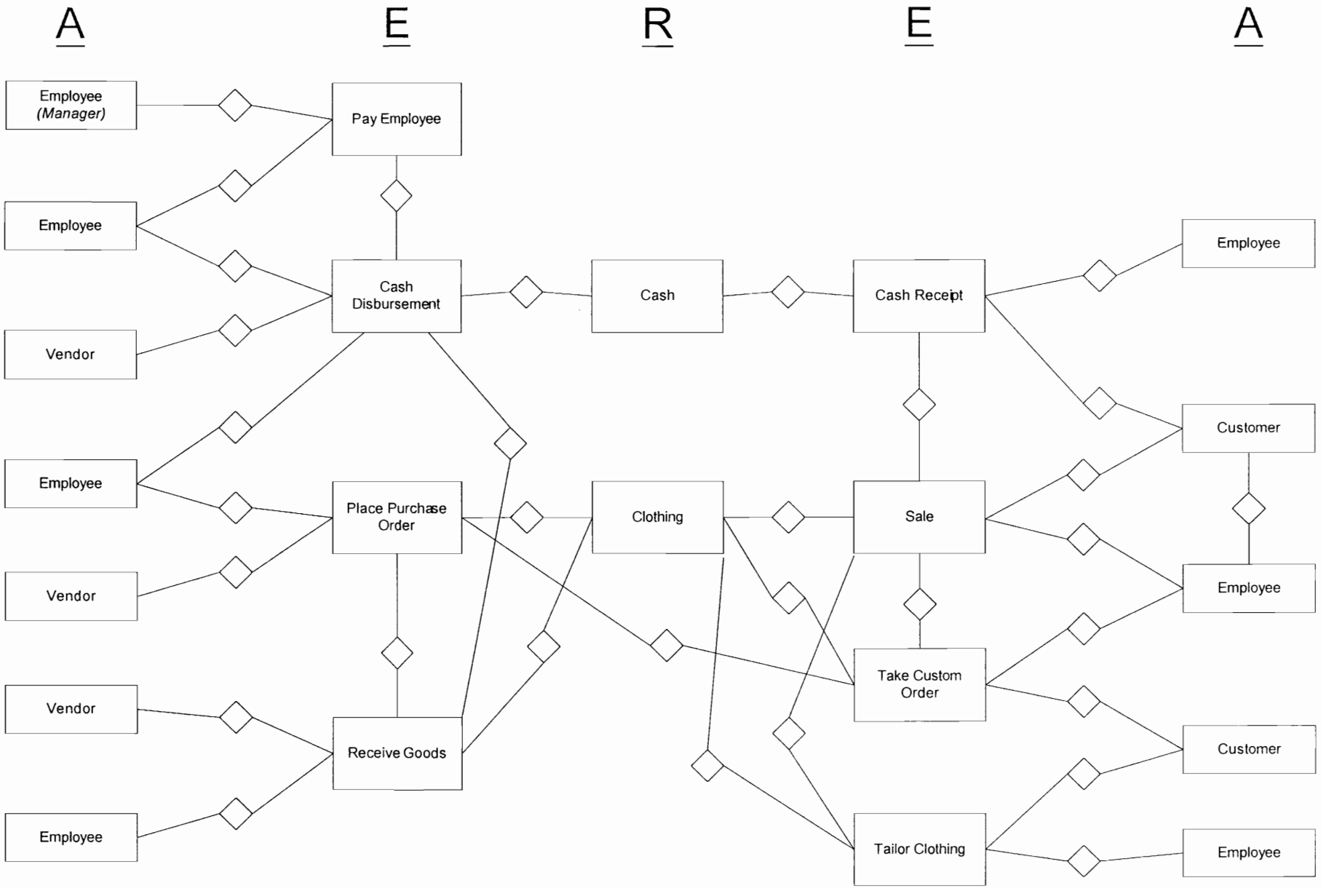
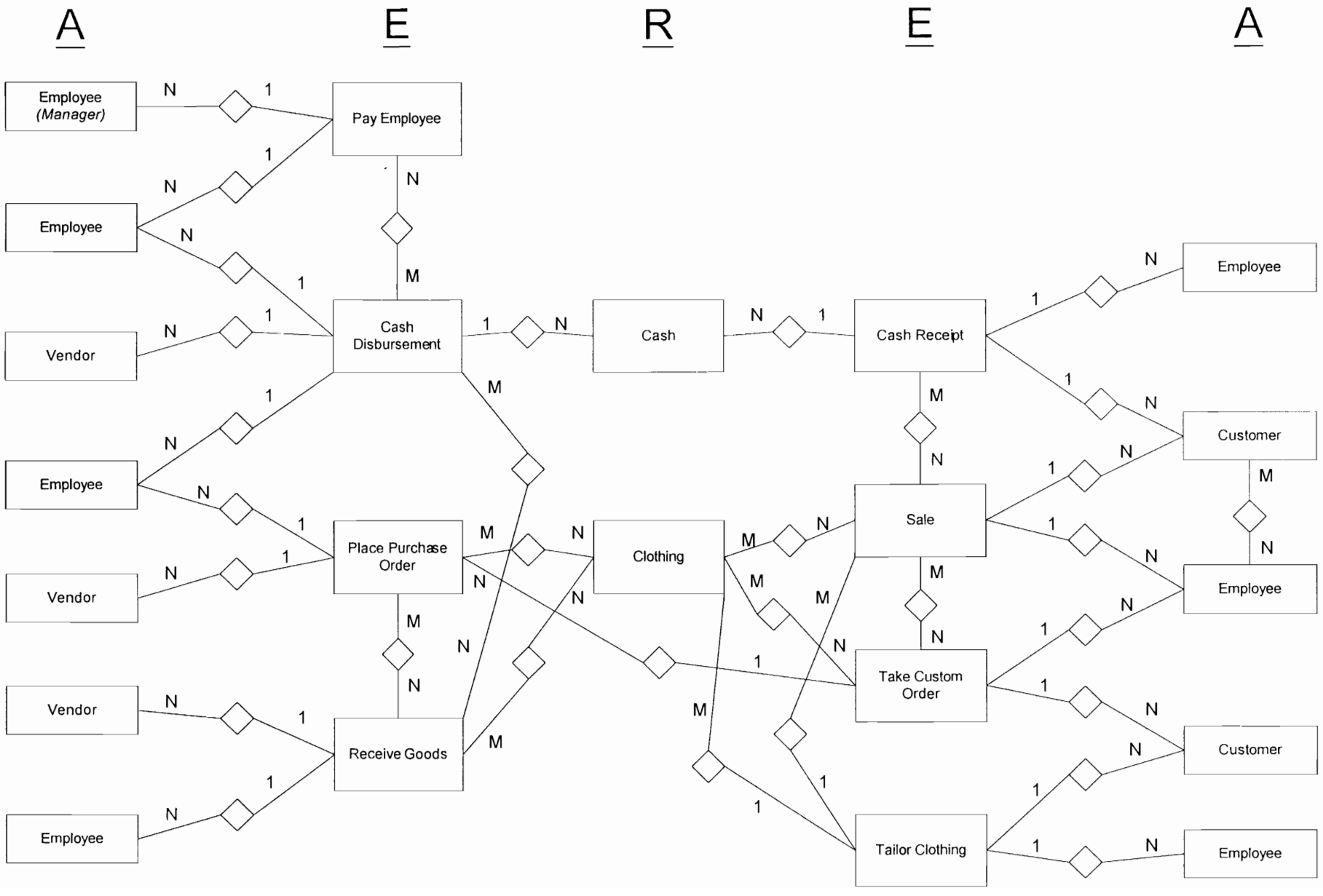


Figure 3-b: REA Data Model w/ Cardinalities for Coachman Clothiers



Appendix C

The following are explanations and descriptions of the resources, events, and agents of figure 3-b in terms of the modeled relationships. It also states what information management will gather from each section of the database.

Resources	***Events***	***Agents***
	Pay employee	Employee (M), Employee

*Each pay employee event can involve one manager and one employee, i.e. a single check is written for each employee. However, each employee and manager will be involved in many pay employee events. Both agents are found in the employee table, however, in this case, the manager is the inside agent paying for the service the employee, the outside agent, brings to the business.

***Management can track payroll information and produce payroll and payroll tax reports.

Pay Employee, Cash Disbursement

*A pay employee event can involve many cash disbursements, and a cash disbursement can involve many pay employee events. (i.e. the employee's paycheck could involve several payroll periods if the employee is on vacation, etc. And, a payroll period could involve multiple cash disbursements if the employee needs a portion of his check at the beginning of the pay period for some external reason.)

***Management can see which check(s) paid for particular payroll period(s) and the amount of each check.

Cash | Cash Disbursement | Employee, Vendor

*A cash disbursement event can come from one cash account. The cash account can be involved in many cash disbursement events. A cash disbursement event can involve one employee and a single vendor, and the employee and vendor can be involved in many cash disbursement events.

***Gives management a report showing how much money is disbursed to each vendor and the amount of cash available in the cash account.

Cash Disbursement, Receive Goods

*A single cash disbursement can involve multiple invoices from multiple receiving events. A receiving event can involve multiple cash disbursements.

***Gives management the ability to see which invoices are involved in each cash disbursement, or which cash disbursements will be involved for each receiving event, and when they are due. Serves as the Accounts Payable function.

Cash | Cash Receipt | Employee, Customer

*A cash receipt will involve one cash account, but that cash account can involve many cash receipts. A cash receipt will involve one employee and one customer, but those employees and customers can be involved in many cash receipts.

***Gives management a report that shows the cash receipts involved in each deposit.

Cash Receipt, Sale

*A cash receipt can involve multiple sales, and a sale can involve multiple cash receipt events.

***Gives management an accounts receivable report. Also, this relationship shows a policy: Coachman allows customers to have credit and allows them to make multiple payments on their accounts.

Clothing Place Purchase Order Employee, Vendor

* A place P.O. event can involve many style #s, and a style # can be involved in multiple purchase orders. A place P.O. event will involve one employee and one vendor, but both can be involved in multiple place P.O. events.

***Gives management the ability to track what items have been ordered, the amount ordered, the cost of the order, who ordered it, and a description of each item.

Place P.O., Receive Goods

*A place P.O. event can involve many receiving events, and a receiving event can involve multiple purchase orders.

***Gives management the ability to tell when the goods were received from each P.O. This information is important in planning when future orders will arrive from each vendor and the amount of time it takes a vendor to complete each purchase order. The information also gives the receiving clerk the ability to make sure the correct items, quantity, and etc. are received.

Clothing Receive Goods Vendor, Employee

*A style # of clothing can be received many times, and a receiving event can involve many style #'s. Each receiving event will involve one employee and one vendor, while both can be involved in many receiving events.

***Gives the employees the ability to see what items have been received, when they were received, when they were placed in inventory, and updates the inventory report.

Clothing Sale Customer, Employee

*A style # of clothing can be sold multiple times, and a sale can consist of multiple style #'s. A sale will involve a single customer and one employee, but both the employee and customer can be involved in many sale events.

***Gives management a report showing what is sold, the cost of goods sold, the actual sale amount, to whom it was sold, and who sold it. This updates the inventory report, the customer purchase history report, and the employee's productivity report.

Customer, Employee

*A customer can work with more than one employee and an employee can with more than one customer.

***Gives management an interesting report on which employee, on average, gets the most sales from each particular customer. Therefore, he can have that employee work with that customer when available.

Clothing Take Custom Order Employee, Customer

*A style # of clothing can be involved in many take custom order events, and a take custom order event can involve many style #s. A customer order event will involve one customer and one employee, while both can be involved in multiple custom order events.

*** Take Custom Order is a business event. The information recorded here is important to management because they will be able to see which items, sizes, colors, etc. the customers ordered. Therefore, they can better predict the styles, quantities, colors, etc. to buy up front in the future, which could lead to more sales and less cost, because custom orders usually have an additional fee and take around five to seven days to arrive. This shows management the vendors involved in the custom orders, the dates ordered, the customer involved, and it can track the # of custom orders by customer.

Take Customer Order, Place Purchase Order

*A custom order can be involved in one purchase order, and a P.O. can involve many custom orders.

***Policy: Coachman collects all custom orders from that date, batches them together by vendor, and makes one P.O. per vendor from that day's custom orders.

Sale, Tailor Clothing

*A sale can involve multiple tailoring events (a sale can involve multiple items to be tailored and an item can be redone) and a tailoring event will involve an item from one sale (the same item cannot be sold two times).

***Management can gather information on tailoring expenses. Coachman does not charge for alterations on purchases for the life of the garment. Currently, Coachman has no way to track the cost of that policy. This table would allow them to produce a report seeing the cost of single alterations and reworks.

Clothing | Tailor Clothing | Customer, Employee

*An article of clothing can be involved in multiple tailoring events and a tailoring event can only involve one article of clothing. A tailoring event will involve multiple employees (sales associates mark the clothes and a tailor alters them) and the employees will be involved in multiple tailoring events. Also, each tailoring event can involve one customer, but that customer can be involved in many.

***Tailor clothing is another business event. However, it gives management the ability to track which employees are responsible for the reworks and which customers consistently have their clothing redone. Gives information for both employee and customer expense reports.

Appendix D

QuickBooks Pro Demo Checklist: Tables for Coachman Clothiers

***Bolded** tables = new information captured by organization

***(Parentheses) = foreign keys: primary keys from other tables

Table	Primary Key(s)	Other Attributes	QuickBooks Module	# of Attributes Present
Employee	Employee #	Last Name, First Name, Date of hire, Title/Position, FT/PT, Address, Phone #, Cell #, Total Vacation Days, Vacation Days Used, Sick Days, Sick Days Used, Payrate, Pay type, Withholding		
Vendor	Vendor#	Account #, Phone #, Address, E-mail, Sales Rep Last Name, First Name, S.R. Phone #, Cell #, Meeting Location		
Customer	**Phone #**	**Last Name, First Name, Address, Other Phone #, E-mail, Discount (y/n), Misc. Comments**		
Pay Employee	Time #	(Employee #), Hours Worked, Gross Pay, Taxes, Deductions, Net Pay		
Pay Employee--Cash Disbursements	Check #, Time #	Amount Paid, Pay Period		
Cash Disbursements	Check #	Name/Vendor, Date, Amount		
Cash	Account #	Date, Balance		
Cash Receipt	**Cash Receipt #**	**(Employee #), (Customer Phone #), Amount, Date, Form of Payment**		
Cash Receipt--Sale	Cash Receipt #, Sale #	Amount Due, Amount Received		
Sale	Sale#	(Customer Phone #), (Employee #), Date, Item#, Quantity, Price, Tax, Total		
Sale--Clothing	**Sale #, Style #**	**Sale Amount, Cost of Goods Sold**		
Customer--Employee	**Customer Phone #, Employee #**	**(Sale #), Sale Amount**		

Clothing	**Item #**	**Vendor, Style #, Model #, Cost of Goods, Selling Price**		
Clothing--Place Purchase Order	**Item#, PO #**	**Style #, Model #, Color, Type, Quantity, Size, Cost of Goods, Retail Price**		
Place Purchase Order	PO #	Date, Vendor, Advanced/Custom, (CO #)		
Place Purchase Order--Receive Goods	**PO #, Receiving #**	**Quantity Received, Cost of Goods, Retail Price**		
Receive Goods	**Receiving #**	**(PO #), (Employee #), Date, # of Items Received**		
Cash Disbursements-- ***Receive Goods***	Check **#, PO #**	Invoice #, Date Due, Amount Due, Amount Paid		
Receive Goods--Clothing	**Receiving #, Item #**	**Quantity Received, Date Received, Date Placed in Inventory**		
Sale--Take Custom Order	**Sale #, CO #**	**Sale Amount**		
Take Custom Order	CO #	Date, Vendor, Customer Name, (Customer Phone #), (Employee#)		
Take Custom Order--Clothing	**CO #, Item #**	**Style #, Model #, Color, Type, Quantity, Size**		
Tailor Clothing	Ticket #	**(Employee #), (Sale #)**, Date, Alteration Description (e.g. coat sleeves, cuff, etc...), **Rework (y/n)**		

Total

QuickBooks Pro Demo Checklist: Reports & Queries for Coachman Clothiers

***Bolded** reports or queries = new information captured by organization

***Underlined reports or queries = presently produced by accountant

Report / Query	Description	QuickBooks Module	Y/N
Accounts Receivable detailed by Customer	Lists the customer, $ amount owed to Coachman, date of sale		
Accounts Payable detailed by Vendor	Lists $ amount due to each vendor, invoice #, dates due		
Cash Account Transactions by Date	Lists the amount of cash available in the cash account by date w/ pertaining cash disbursements and deposits		
Receiving to Cash Disbursements by Days	**Lists the date the items were received and the date the receipt was paid**		
Receiving to Sales by Date	**Lists the date the items were received and the date the items were sold**		
Customer Statement	**Lists the sales transactions, the total $ amount owed to Coachman, & the date due**		
Inventory	**Lists the items remaining in inventory, the cost of each, and retail price**		
Inventory Turnover	**Lists the average number of times inventory is turned over in a given year**		
Inventory Turnover in Days	**Lists the number of days it takes to turn items in inventory**		
Purchase Order by Vendor	**Lists the $ amount spent with each vendor, # of units, # of units by type**		
Custom Order detailed by Item	**Lists the style #s, quantity of each ordered, sizes, and description**		
Customer Custom Order	**Lists a customer's order history & if the item was purchased, returned to vendor, or put in stock**		
Receiving Reports	**Lists the items received by date and vendor to compare with invoices**		

Customer Purchases	**Lists a customer's purchase history with detailed items**		
Customer Credit	**Lists a customer's credit history & speed of A/R payment**		
Employee-Customer	**Lists the amount of each sale by employee with a particular customer**		
Productivity	**Lists the items sold by each employee, or the alterations done by each tailor & the # of reworks**		
Customer-Tailoring Demand	**Lists the number of sales of each customer, the numbering of tailoring events involved for each sale, the percentage of sales tailored, the number of reworks, the percentage of tailoring events reworked**		
Payroll	Lists the $ amount each employee has made in a time period		
Payroll Tax	Lists the $ amount of payroll taxes by employee		
Quarterly Tax	Lists the $ amount of quarterly tax paid and due for a given time period		
Donations	Lists the $ amount of donations made and to whom in the given year		

Appendix E

RAD 2001

QuickBooks/Demo Checklist: Tables for Coachman Clothiers

***Bolded** tables = new information captured by organization

***(Parentheses) = foreign keys: primary keys from other tables

	Table	Primary Key(s)	Other Attributes	QuickBooks Module	# of Attributes Present
1	*Employee*	Employee #	Last Name, First Name, Date of hire, Title/Position, FT/PT, Address, Phone #, Cell #, Total Vacation Days, Vacation Days Used, Sick Days, Sick Days Used, Paytate, Pay type, Withholding	Employees: Employee List	15/16
2	*Vendor*	Vendor#	Account #, Phone #, Address, E-mail, Sales Rep Last Name, First Name, S.R. Phone #, Cell #, Meeting Location	Vendors: Vendor list	8/10
3	***Customer***	**Phone #**	**Last Name, First Name, Address, Other Phone #, E-mail, Discount (y/n), Misc. Comments**	Customers: Customer List	8/8
4	*Pay Employee*	Time # ← (Date)	(Employee #), Hours Worked, Gross Pay, Taxes, Deductions, Net Pay	Employees: Pay Employees	7/7
5	*Pay Employee--Cash Disbursements*	Check #, Time #	Amount Paid, Pay Period	Employees: Pay Employees	4/4
6	*Cash Disbursements*	Check #	Name/Vendor, Date, Amount	Vendors: Pay Bills	4/4
7	*Cash*	Account #	Date, Balance	Banking: Checking	3/3
8	***Cash Receipt***	**Cash Receipt #**	**(Employee #), (Customer Phone #), Amount, Date, Form of Payment** ← Customer	Customers: Receive Payments	5/6
9	*Cash Receipt--Sale*	Cash Receipt #, Sale #	Amount Due, Amount Received	Customers: Receive Payments	4/4
10	*Sale*	Sale#	(Customer Phone #), (Employee #), Date, Item#, Quantity, Price, Tax, Total	Enter Sales Receipts	9/9
	Sale--Clothing	**Sale #, Style #**	**Sale Amount, Cost of Goods Sold**		0/4
12	***Customer--Employee***	**Customer Phone #, Employee #**	**(Sale #), Sale Amount**	—	0/4
13	***Clothing***	**Item #**	**Vendor, Style #, Model #, Cost of Goods, Selling Price**	Item List	5/6

Customize the forms

* the others in can go in a dissc section

14	***Clothing--Place Purchase Order***	Item#, PO #	Style #, Model #, Color, Type, Quantity, Size, Cost of Goods, Retail Price	Create Purchase Orders	8/10 *
15	*Place Purchase Order*	PO #	Date, Vendor, Advanced/Custom, (CO #)	Create Purchase orders	4/5
16	***Place Purchase Order--Receive Goods***	PO #, Receiving #	Quantity Received, Cost of Goods, Retail Price	Create Item Receipts	4/5
17	***Receive Goods***	Receiving #	(PO #), (Employee #), Date, # of Items Received	Create Item Receipts	4/5
18	*Cash Disbursements--Receive Goods*	Check #, PO #	Invoice #, Date Due, Amount Due, Amount Paid	Pay Bills	5/6
19	***Receive Goods--Clothing***	Receiving #, Item #	Quantity Received, Date Received, Date Placed in Inventory	Enter Bills OR Receive Items w/ Bill	4/5
20	***Sale--Take Custom Order***	Sale #, CO #	Sale Amount	—	— 0/3
95			Report		
21	*Take Custom Order*	CO #	Date, Vendor, Customer Name, (Customer Phone #), (Employee#)	Create Purchase Orders	5/6
22	***Take Custom Order--Clothing***	CO #, Item #	Style #, Model #, Color, Type, Quantity, Size	Create Purchase Orders	8/9
23	*Tailor Clothing*	Ticket #	(Employee #), Sale #, Date, Alteration Description (e.g. coat sleeves, cuff, etc...), Rework (y/n)	Sales Receipt	4/5
	Total				118/144

Same P.O. *

Sales Receipt for ∅ w/ Description

for Tailoring: Retail:

in setup: classes feature to track different segments of a business

↳ or In Income Details; Service Items; Enter each things cuff, ...; Service Item; Tailoring; Repeat until all changes could be added ...

Setup: . General ⇒ 20 min
. Income Expenses ⇒ 7 min

* Consultations:
* Contacting non inventory but try POS retail specific Package

* Inventory Item setup is tedeous
* Customer Job Tracking to track tailoring of each item: very tedious
* Tradeoff to consider

add custom add job

Pre 2001

QuickBooks Demo Checklist: Reports & Queries for Coachman Clothiers

***Bolded reports or queries = new information captured by organization

***Underlined reports or queries = presently produced by accountant

	Report / Query	Description	QuickBooks Module	Y/N
1	*Accounts Receivable detailed by Customer*	Lists the customer, $ amount owed to Coachman, date of sale	A/R Aging Detail	Y
2	*Accounts Payable detailed by Vendor*	Lists $ amount due to each vendor, invoice #, dates due	A/P Aging Detail	Y
3	*Cash Account Transactions by Date*	Lists the amount of cash available in the cash account by date w/ pertaining cash disbursements and deposits	(2) 1: Check Detail 2: Deposit Detail	Y
4	***Receiving to Cash Disbursements by Days***	**Lists the date the items were received and the date the receipt was paid**	Vendor Balance Detail	Y
5	***Receiving to Sales by Date***	**Lists the date the items were received and the date the items were sold**	—	(N)
6	***Customer Statement***	**Lists the sales transactions, the total $ amount owed to Coachman, & the date due**	Create Statements	Y
7	***Inventory***	**Lists the items remaining in inventory, the cost of each, and retail price**	Inventory Valuation Summary	Y
8	***Inventory Turnover***	**Lists the average number of times inventory is turned over in a given year**	—	(N)
9	***Inventory Turnover in Days***	**Lists the number of days it takes to turn items in inventory**	Inventory Stock Status by Item (Sales/week)	~~N~~ Y
10	***Purchase Order by Vendor***	**Lists the $ amount spent with each vendor, # of units, # of units by type**	Purchases by Vendor Detail	Y
11	***Custom Order detailed by Item***	**Lists the style #s, quantity of each ordered, sizes, and description** (Purchases by Item Detail)	Purchases by Item Detail (Memo: CO)	Y
12	***Customer Custom Order***	**Lists a customer's order history & if the item was purchased, returned to vendor, or put in stock**	—	(N)
13	***Receiving Reports***	**Lists the items received by date and vendor to compare with invoices**	1/Vendor Balance Detail	Y

1 Compare to P.O.'s in system

14	***Customer Purchases***	**Lists a customer's purchase history with detailed items**	Sales by Customer Detail	y
15	***Customer Credit***	**Lists a customer's credit history & speed of A/R payment**	Collections Report	y
16	***Employee-Customer***	**Lists the amount of each sale by employee with a particular customer**	Sales by Customer Detail	y
17	***Productivity***	**Lists the items sold by each employee, or the alterations done by each tailor & the # of reworks**	Sales by Rep	y
18	***Customer-Tailoring Demand***	**Lists the number of sales of each customer, the numbering of tailoring events involved for each sale, the percentage of sales tailored, the number of reworks, the percentage of tailoring events reworked**	—	N
19	*Payroll*	Lists the $ amount each employee has made in a time period	Payroll Summary	y
20	*Payroll Tax*	Lists the $ amount of payroll taxes by employee	Payroll Liabilities or Payroll Summary	y
21	*Quarterly Tax*	Lists the $ amount of quarterly tax paid and due for a given time period * w/ TurboTax	*	y*
22	*Donations*	Lists the $ amount of donations made and to whom in the given year	Contributions	y

Ask Gail Name

Add'l Reports

18/22

* Accounting ✓✓✓ from ... to ...
* Customers & Receivables

opt a Quicktacks & pick out some.